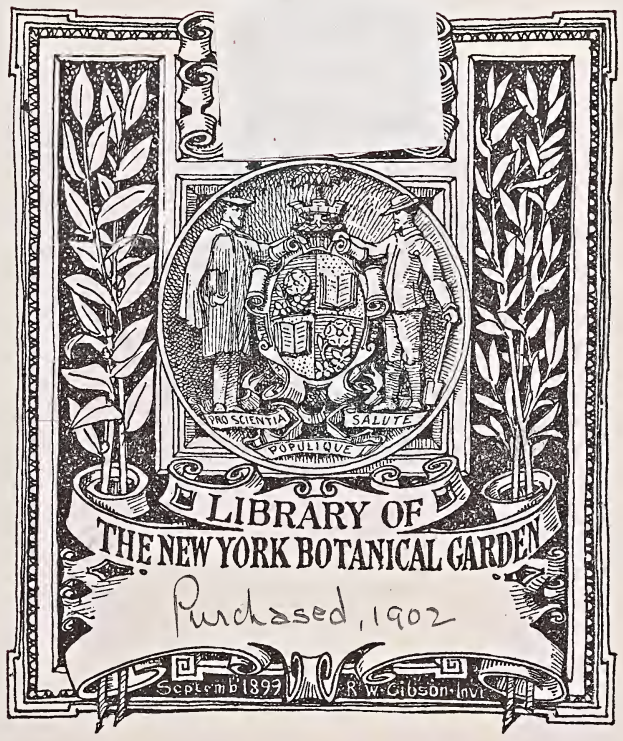
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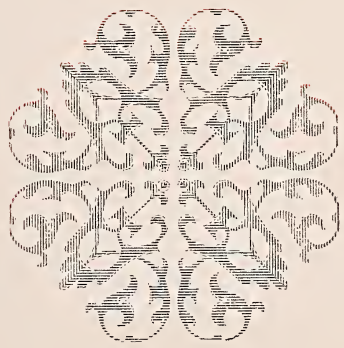

LINDENIA

ICONOGRAPHY

OF ORCHIDS

LINDENIA

ICONOGRAPHY

OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS
and R. A. ROLFE.

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English Edition PART. I. V. 1 February 1891.

LINDENIA

ICONOGRAPHY OF ORCHIDS

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J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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INTRODUCTION.

At the request of numerous amateurs of Orchids, who regret that they are not able to profit completely by a work written in the French language, I have now decided to publish an English edition of the " *Lindenia.* " This edition will be carried on in exactly the same way as has the French edition during the last six years, in which 264 species or varieties have already been figured; appearing regularly every month, seeking the accomplishment of the same programme, with the co-operation of the same contributors, and the same artists, who have hitherto received the favourable sympathies of the public.

Is it necessary to explain here the utility of an enterprise of this nature, or the aims of its founders? Many of my English friends have the good-will to assure me that there is a considerable general and also scientific interest attending the publication of the numerous important documents which come into my hands as the Director of an establishment essentially devoted to the introduction of new Orchids. After much hesitation I have therefore decided to offer to the English public the portraits and history of the more important of the beautiful Orchids which appear, whether in the establishment which I direct (and, naturally, I am bound to utilise my own materials), or in those of the principal amateurs, but especially the novelties, of which the houses of L'Horticulture Internationale are so rich at the present time.

It is also this abundance of materials which encourages me to give them the greater publicity. Instead of being exhausted, as some persons suppose, the source of these marvels appears to acquire an ever-increasing fecundity, affording proof of the predictions of my father, who has preserved exact notes and recollections of his journeys, knows some of the treasures which still remain, and has never despaired of the advent of their introduction. In a recent number of the French edition of the *Lindenia* I have spoken of the species of good fortune which occasionally leads to intelligence of one kind or the other, and produces a

1902

succession of brilliant discoveries. These discoveries, so numerous twenty years ago, gradually became less frequent, but it appears probable that this auspicious vein may re-open, and we hope to see the return of this heroic epoch, not only, as I wrote in December, for the genus Cattleya, but for the whole family of Orchids.

The group of four novelties which are figured in the present part, furnish an excellent example in proof of the preceding argument. A certain number of others have either flowered already, are now in flower, or will be very soon, and will also be reproduced in succeeding parts; forming, I am persuaded, one of the richest collections of documents in the whole history of Orchids.

I hope, therefore, that this new edition will be favourably received by the numerous public in England, who are occupied in the cultivation of Orchids, with a zeal so enlightened and a success so brilliant. Whatever the cause of this success, I consider it a sufficient recompense for the good-will which has hitherto been accorded me by my subscribers to the French edition, and a satisfaction which has often proved an incentive to labour.

As to the title of the work I have perhaps also to explain to my English readers. In establishing this Album devoted to Orchids I have wished to place it under the patronage of my venerable and revered father, M. John Jules Linden. No one, I hope, would wish to censure this homage, rendered by his son to a father who has introduced directly more than 1000 species of unknown Orchids, who has devoted all his life to the sciences of botany and horticulture, and who has not ceased during the last fifty years to dote on all his valuable discoveries. My father travelled for twelve years, and during that time introduced a considerable number of plants.

I have, moreover, only followed the example of a master universally respected, the late Dr Lindley, who published one of his works under the title " *Orchidaceae Lindenianae.* "

Brussels, January 1891.

The Publisher,

Lucien Linden.

CATTLEYA REX O'BRIEN

A. Goossens pinx. *G. Severeyns chrom.*

PL. CCLXV.

CATTLEYA REX O'BRIEN.

CATTLEYA " THE KING. "

CATTLEYA. Perigonii foliola exteriora membranacea vel carnosa patentia aequalia, interiora saepius majora. Labellum basi columnae affixum cucullatum integrum vel trilobum, columnam involvens. Columna clavata elongata semiteres exalata. Anthera quadrilocularis, carnosa, septorum marginibus membranaceis. Pollinia quatuor cauliculis totidem replicatis.

Herbae americanae tropicae epiphytae pseudobulbiferae, foliis solitariis geminisve coriaceis, floribus terminalibus magnis speciosis saepe e spatha magna erumpentibus.

LINDL., *Coll. Bot.*, t. 33; ID., *Gen. & Sp. Orch. Pl.*, p. 116. — BENTH. et HOOK F., *Gen. Pl.* III, p. 531.
C. Rex, O'BRIEN in *Gard. Chron.*, 1890, pt. 2, p. 684.

This is a striking example of the considerable difficulties which sometimes attend the introduction of new Orchids. The Cattleya of which we give to-day the representation has been known to M. J. LINDEN for fifty years, but it was only at the end of last year that it was sent to Europe.

Originally discovered by M. J. LINDEN during his travels in South-America, it was met with again, thirty years later, by Wallis, who proclaimed it the most beautiful of Cattleyas, but he did not succeed in sending living plants to Europe. Twenty years after this second discovery, one of the collectors which M. LINDEN had sent to search for it diligently, succeeded at last in obtaining it, and sent some plants in good condition to Brussels.

The great difficulty of this search arose especially from the fact, that the plant has not, as have Orchids in general, a central district, a place where it may be found in quantity. Also one of the collectors of Messrs LINDEN spent a whole year in the same locality (which it is not yet possible for us to divulge), without seeing or collecting more than thirty plants of this Cattleya during this long period.

The country in which it grows, is, moreover, one of the least accessible in South-America, and the journey across the mountains, among rugged rocks, sometimes cut naturally in nearly vertical steps, without even an indicated path, without any base of operations, in the midst of difficulties without number, entail the loss of considerable time, and frequently the life of the plants collected with so much trouble. One can form an idea of the difficulties encountered when it is stated that not only the plants but also the collectors themselves have to be carried for several days on the backs of the Indians.

These persistent efforts were amply compensated for when one of the plants imported produced in December last a raceme of its splendid flowers, of which we now publish a representation. Seldom has the appearance of a new Orchid

made an equally striking impression on the beholder, and yet the flowers were produced on an unmatured growth, and had not attained their natural dimensions. We may affirm that those which will appear this year, will be sensibly larger than those represented on our plate. As to colour, we do not think it possible to surpass them in beauty. Throughout the whole Orchid-family there exist but few gems comparable to the labellum of this species, in which the purple combined with gold is modified into a crimson of the hue of Spanish wine, and the marblings and the veins are of an exquisite elegance.

We may recall, moreover, the appreciation expressed by Mr. James O'Brien in an article in the *Gardeners' Chronicle :*

" A portion of the six-flowered inflorescence and a drawing of the whole " of it has just been sent me, and I have no hesitation in saying that it is one " of the handsomest which the favourite " labiata " section of Cattleya has yet " given us. The sepals are three and a half inches long and three-quarters of " an inch in width, white, tinged with primrose-yellow. Petals ovate, three and " a half inches in length and two and a quarter inches in width, creamy " white, their edges wavy and slightly notched. The lip, which is obscurely " three-lobed, is a wonderful piece of colouring. The convolute side lobes, " forming the tube which folds over the pure white column, are creamy-white " on the edges, and yellow streaked with red beneath. The interior of the tube, " and the upper part of the front lobe, are of the richest crimson, veined in a " beautiful manner with golden yellow. The front lobe of the labellum, which " is finely expanded, and edged with a pure white fringe, is crimson of various " shades, from the rosy hue to the purple tint, all worked in to form a richly " coloured marbling. Taking the flower at a glance, the nearest thing I can liken " it to is the *Cattleya Imschootiana*, for which Baron Schröder recently received " a First-class Certificate at the Royal Horticultural Society; but this is different " and superior in every respect. There is also something about the colouring " of the lip which calls to mind a good form of *C. maxima*. In habit *C. Rex* is " certainly distinct, the thin pseudo-bulbs being often a foot in length, and the " single oblong leaf borne on them also about a foot long. "

C. Rex recalls somewhat *C. maxima* in the number of flowers produced on each raceme, a character which we also observe in the long-bulbed variety of this species.

The plants hitherto imported are very few in number, but we hope very soon to be able to increase the stock, and that this grand novelty will be sent out during next April.

As in the case of *C. Warocqueana*, we prefer to await the second time of flowering, after the complete establishment of the plant, before giving its description and its botanical classification. We therefore withhold the diagnosis at the present time, but we shall be pleased to give one as soon as the plant has attained its complete development.

COCHLIODA NOEZLIANA ROLFE

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXVI.

COCHLIODA NOEZLIANA ROLFE.

M. JOHN NOEZLI'S COCHLIODA.

COCHLIODA. Sepala aequalia, patentia, libera vel lateralia basi vel ad medium connata, mentum breve nunc obscurum formantia. Petala sepalis subsimilia. Labelli unguis erectus, columnam arcte amplectens eique plus minus adnatus; lamina patens, lobis lateralibus rotundatis saepe reflexis, medio angusto integro vel emarginato sepala non excedente; discus basi saepe membrana vel callo appendiculatus. Columna erecta, saepe leviter incurva, tenuis vel crassa, semiteres, cum labello plus minus connata, exalata, basi in pedem brevissimum producta vel fere apoda; clinandrium truncatum vel obliquum vel saepe membranaceo-trilobum, interdum denticulatum. Anthera terminalis, opercularis, incumbens, imperfecte bilocularis; pollinia 2, cerea, ovoidea vel subglobosa, sulcata, inappendiculata, anthera dehiscente stipiti plano brevi latoque vel oblongo affixa, glandula majuscula.

Herbae epiphyticae, caulibus brevissimis pseudobulbo 1-2 foliato terminatis. Folia oblonga vel angusta, coriacea, in petiolum contracta. Scapi sub pseudobulbo 1-2, basi folio vel vaginis foliaceis stipati, simplices vel parce ramosi. Flores saepissime eleganter rubri, luxiuscule racemosi, pedicellati.

Species 5, Andium Americae australis incolae.

Cochlioda LINDL. *Folia Orch., Cochl.* (1853), p. 1. — BENTH. in *Journ. Linn. Soc.,* XVIII, p. 327. — BENTH. et HOOK. F. *Gen. Plant.,* III, p. 560.

Cochlioda Noezliana. Pseudobulbis ovoideo-oblongis, compressis, foliis lineari-oblongis acutis, scapo arcuato paniculato, bracteis lanceolatis acutis, sepalis liberis lineari-oblongis mucronatis, petalis latioribus, labello trilobo, lobo medio late oblongo subtruncato emarginato, lobis lateralibus late rotundatis, callis duobus linearibus in disco, columna subclavata.

Cochlioda Noezliana ROLFE, *supra.*

Odontoglossum Noezlianum HORT., *Gard. Chron.,* 1890, pt. 2, pp. 570, 602. — *Journ. des Orch.,* I, p. 294.

This is a charming novelty, of very graceful habit, and bearing a branching panicle of medium-sized, orange-scarlet flowers, with a yellow disc. It was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, doubtless from some part of the Andes of South America, though I have no information on this point. A plant was exhibited at a meeting of the Royal Horticultural Society on November 11th. of last year, when it was awarded a Botanical Certificate.

It is dedicated to M. JOHN NOEZLI, its discoverer.

As to the genus, a somewhat difficult point arises. The genus Cochlioda was established by LINDLEY, in 1853, upon a plant collected by MATTHEWS, in Peru. It was described as having flowers with the shape and adnate lip of an Epidendrum, though the habit was that of an Odontoglossum, and the nature of the pollinarium showed unmistakably that it was nearly allied to the last-named genus. The same author, however, had previously described another species, with identical structure, as *Odontoglossum roseum*, in 1844. REICHENBACH first transferred Cochlioda to Odontoglossum, and afterwards to his genus Mesospinidium, though it is certainly different in structure from the latter, and I cannot under-

stand how the two should ever have been put together. From Odontoglossum it differs in having the lip adnate to the column, in some species right up to the latter's apex, and I think it best to follow BENTHAM in retaining Cochlioda as a distinct genus, adding to it those species of Mesospinidium which agree in structure, and which certainly do not belong to the last-named genus.

The following species therefore belong to the genus : —

1. *Cochlioda densiflora*, LINDL. *Fol. Orch.*, *Cochl.* (1853), p. 1.— *Odontoglossum Cochlioda*, RCHB. F. in *Walp. Ann.*, VI, p. 853. — *Mesospinidium densiflorum*, RCHB. F. in *Gard. Chron.*, 1872, p. 392 (in note). — Peru.

2. *C. Noezliana*, ROLFE, *supra*.

3. *C. rosea*, BENTH. in *Journ. Linn. Soc.*, XVIII, p. 327 (in note). — *Odontoglossum roseum*, LINDL. in *Benth. Pl. Hartw.* (1844), p. 151. — *Bot. Mag.*, t. 6084. — *Batem. Monogr. Odont.*, t. 22. — *Ill. Hort.*, XVIII, p. 116, t. 66. — *Mesospinidium roseum*, RCHB. F. in *Gard. Chron.*, 1872, p. 392 (in note). — Peru.

4. *C. sanguineum*, BENTH. et HOOK. F. *Gen. Plant.*, III, p. 560 (in note). — *Mesospinidium sanguineum*, RCHB. F. in *Walp. Ann.*, VI, p. 858. — *Bot. Mag.*, t. 5627. — BATEM. *Second Cent. Orch.*, t. 199. — Peru & Ecuador.

5. *C. vulcanicum*, BENTH. et HOOK. F. *Gen. Plant.*, III, p. 560 (in note.) — *Mesospinidium vulcanicum*, RCHB. F. in *Gard. Chron.*, 1872, p. 392. — *Bot. Mag.*, t. 6001. — Eastern Peru, at 8-11,000 feet altitude.

The species of this elegant little genus are found growing between the altitudes of about 6,500 to 11,000 feet above sea-level, hence they require the same treatment as Odontoglossums. They are very floriferous, and their brilliant colours render them exceedingly attractive, and worthy of a place in every collection. The species here figured is a recent introduction, not yet established in cultivation, but it is a plant of much promise, and by reason of its peculiar shade of colour will doubtless prove a welcome addition to this interesting little group.

R. A. ROLFE.

PERISTERIA ASPERSA ROLFE

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXVII.

PERISTERIA ASPERSA ROLFE.

THE SPECKLED PERISTERIA.

PERISTERIA. Sepala subaequilonga, lata, crassiuscula, in globum conniventia, lateralia postico latiora et basi breviter connata. Petala sepalis minora, caeterum subsimilia. Labellum carnosum, cum pede columnae continuum, basi patens; lobi laterales lati, erecti; medius articulatus, indivisus, basi incumbens, margine et apice recurvis; discus saepe callosus. Columna erecta, subincurva, brevis, crassa, exalata, antice biauriculata vel nuda, basi in pedem producta; clinandrium obliquum, postice elevatum. Anthera terminalis, opercularis, incumbens, imperfecte bilocularis; pollinia 2, cerea, angusta, oblonga, saepius sulcata vel subdivisa, inappendiculata, anthera dehiscente glandula oblonga cuneata vel lata affixa.

Herbae epiphyticae, validae, caulibus brevissimis vaginatis mox in pseudobulbum carnosum apice uni-vel paucifoliatum incrassatis. Folia ampla nunc longissima, plicato-venosa, in petiolum contracta. Scapi ad latera pseudobulborum erecti nutantes vel a basi deflexi, simplices. Flores speciosi, in racemo brevi vel elongato breviter pedicellati. Bracteae parvae vel membranaceae at ovario breviores.

Species circa 8, Andium Columbiae incolae.

Peristeria HOOK. *Bot. Mag.*, LVIII (1831), t. 3116. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 550.

Eckardia RCHB., *Nomencl.*, n. 2031, *ex* ENDL. *Gen. Pl., Suppl.*, II, p. 17.

Peristeria aspersa. Dense caespitosa, pseudobulbis ovoideo-oblongis magnis, racemo brevi porrecto decemfloro, bracteis elliptico-oblongis subobtusis striatis valde concavis, 1-5 cm. longis, pedicellis 4-4,5 cm. longis, sepalis basi breviter connatis elliptico-oblongis subobtusis 2,5-2,8 cm. longis 1,5-1,7 cm. latis, petalis similibus paulo minoribus, labello unguiculato trilobo, lobis lateralibus obliquis subrhombeis vel late rotundatis, mesochilio oblongo, epichilio late oblongo obtuso margine arcte recurvato carinis geminis extrorsum arcuatis, columna utrinque apice minute apiculata.

Peristeria aspersa ROLFE, *supra.*

This interesting Peristeria was collected by the intrepid collector M. BUNGEROTH, on the declivities of the Sierra de Marawaca, one of the most elevated mountains of the Parama chain, in Venezuela, and flowered in the collection of L'HORTICULTURE INTERNATIONALE, Parc Léopold, Brussels, during last summer. It is closely allied to the rare *P. Rossiana*, RCHB. F., known to me by an excellent example sent by Signor H. J. Ross, of Florence, Italy, from the type plant. Both have a strong transverse keel-like ridge behind, connecting the transverse plates of the side-lobes, but in *P. Rossiana* there is a second smaller ridge connecting the front edges of the said transverse plates of which I cannot detect a trace in *P. aspersa*. This, taken in conjunction with a number of minor differences, seems to show that they are quite distinct species. Indeed the pendulous-flowered species of the genus bear such a strong external resemblance to each other that careful examination is often necessary in order to distinguish them.

The flowers of *P. aspersa* are borne in short racemes, ten being present in the specimen now before me. The colour is a light brownish-yellow, densely

spotted or speckled with innumerable small spots of reddish-brown, and with the front lobe of the lip of a darker shade, bordering on crimson. The lip itself is a remarkable organ, and very difficult to describe in few words. It is continuous with the foot of the column, and at its junction with that organ forms nearly a right-angle with it. Just above this point are the two erect lateral lobes, each roundish-oblong, rather thin, and directed slightly backwards in an oblique direction. At the base of each lateral lobe is a strong fleshy transverse keel. Above this point the lip extends as a broad flattened curved stalk-like body for about 1 cm., and finally comes the movable front lobe, which is delicately articulated to the same. This organ is broadly oblong, with strongly recurved tip and margins, and with a pair of fleshy arcuate keels. The whole genus is a very curious and interesting one.

Eight species are now known. *P. elata*, known as the Dove Orchid, is a noble species, with long, erect racemes of waxy-white, nearly globose flowers. The column and side-lobes of the lip bear a striking resemblance to the figure of a dove, whence it has been called by the Spaniards of South America *El Espiritu Santo*. The others bear short, horizontal, or pendulous racemes, like those of the species here represented. They are generally yellowish or buff-coloured, with numerous maroon or reddish-purple spots. They are natives of Panama, Columbia and Guiana.

The following is an enumeration of the species : —

1. *P. aspersa* Rolfe, *supra*.

2. *P. cerina* Lindl. *Bot. Reg.*, XXIII (1837), t. 1953. — Central America.

3. *P. elata* Hook., *Bot. Mag.*, LVIII (1831), t. 3116. — *Revue Hort.*, 1876, p. 133, figs. 22, 23. — Id., 1877, p. 110, with plate. — *Jenn. Orch.*, t. 44. — Warn. & Will. *Orchid. Album*, VI, t. 527. — Panama and Columbia.

4. *P. ephippium* Rchb. f. in *Gard. Chron.*, 1883. pt. 2, p. 198. — Western South America.

5. *P. guttata*, Kn. & Westc. *Fl. Cab.*, II (1838) p. 99, t. 70. — Demerara.

6. *P. laeta*, Rchb. f. in *Gard. Chron.*, 1887, pt. 2, p. 616. — Origin unknown.

7. *P. pendula*, Hook. *Bot. Mag.*, LXIII (1836), t. 3479. — *Gard. Chron.*, 1886, pt. 1, p. 116, fig. 21 (fruit). — British Guiana.

8. *P. Rossiana* Rchb. f. in *Gard. Chron.*, 1888, pt. 1, p. 8. — Origin unknown.

They succeed well in the East Indian or Cattleya house, potted in a mixture of loam and leaf-mould, and well drained. During the growing season they require a good supply of water, but after the growth is finished they should be allowed a good season of rest, and be kept comparatively dry at the roots. They are very interesting, and worthy of more extended cultivation.

R. A. Rolfe.

CATTLEYA WAROCQUEANA var. AMETHYSTINA L. LIND.

A. Goossens, lith.

PL. CCLXVIII.

CATTLEYA WAROCQUEANA var. AMETHYSTINA L. LIND.

M. G. WAROCQUÉ'S CATTLEYA, AMETHYST-COLOURED VARIETY.

CATTLEYA. Vide supra, p. 3.
C. Warocqueana, L. LIND. in *Journ. des Orch.,* I, p. 219.

It is not entirely a novelty which we present to our readers to-day. *Cattleya Warocqueana* has obtained sufficient recognition, and caused sufficient talk, at all the autumn shows of last year, to be known to every-one. Yet its exact classification is not at present definitely settled, nor do we think it will be before its second season of flowering. We therefore delay to the end of this year the botanical description, and native habitat, and we are content to-day to submit to the lovers of beautiful Orchids a popular account of one of the most beautiful forms which has yet appeared.

Rarely has a species been produced with such a considerable number of choice varieties as *Cattleya Warocqueana.* Many of them have been exhibited at the meetings of the ORCHIDÉENNE, of Brussels, and of the Royal Horticultural Society, of London, and have obtained a brilliant success. A certain number of the plants have not yet flowered, and we await more of these beautiful revelations during the coming season.

Part of the plants which flowered during last year, from October until the early days of January, are not distinguishable from the ancient *Cattleya labiata autumnalis;* also many excellent judges, and particularly Mr. JAMES O'BRIEN, have stated, that they doubt not that *Cattleya Warocqueana* will ultimately have to be classed as a new appearance of this celebrated species, so rare for many years, but comprising a vast series of varieties beyond comparison, which considerably increase its value.

The variety *amethystina* is one of the most beautiful which appeared during last autumn. We do not frame a description, but we are enabled to reproduce some of the opinions of the English press, when it was exhibited at a meeting of the Royal Horticultural Society, held on October 14th, 1890, and was awarded a First-class Certificate.

The *Gardeners' Chronicle* expresses itself in the following manner : —

" Among the chief of the interesting specimens submitted here was a series
" of varieties of the new *Cattleya Warocqueana*, and very beautiful they looked
" too, after coming inside from a fog which hung round all day... In a variety
" shown under the name of *amethystina* is the richest colouring of all, the flowers

" being of a deep rosy-crimson, well formed, and the lip expanding, while its " colouring is a deeper rosy-lilac than the sepals and petals, with the exception " of a narrow edging, which just corresponds. Altogether, they form a charming " series of plants, and the flowers have a distinct colouring which is quite " peculiar. "

The *Garden* says : —

" *C. Warocqueana amethystina* is of great width, not unlike *C. gigas* in " expression, and very rich in colour; the sepals warm rose, and the broad, " massive petals of the same intense colour, the lip deepening to a still darker " shade, relieved by a few golden lines in the throat. A few plants in the " Orchid house now would brighten it considerably. "

The *Journal of Horticulture* says : —

" M. Linden, Brussels, sent a small group of Orchids, conspicuous amongst " which were several plants of *Cattleya Warocqueana*, showing considerable " variation in size and colour of the flowers. Two of these were selected for " certificates as the most distinct and meritorious, but the opinion was that the " series of forms under the type Warocqueana would prove useful as late flow- " ering Cattleyas.... *C. Warocqueana amethystina*, flowers somewhat smaller than " the preceding, but of better colour, the sepals and petals very crimson, the lip " a rich magenta; very effective. "

The *Gardeners' Magazine* says : —

" *C. Warocqueana amethystina*, a distinct and handsome form, with flowers " of the largest size, the petals and sepals rich rose pink, and the labellum rich " amethyst purple. "

The *Gardening World* says : —

" *C. Warocqueana amethystina*, the sepals and broad elliptic petals of this " variety are of a uniformly rich, deep rose. The lip is large, bifid, of a rich " purple, striated with yellow lines in the throat. The plant shown by M. Linden " had two flowers of large size; but this is only its first time of flowering. "

Cattleya Warocqueana is without doubt one of the most robust and the most easily cultivated of the entire genus. Many of the plants which were imported into Belgium last year formed buds during the journey, and two of them expanded their flowers; notwithstanding this, they afterwards produced very vigorous growths, and flowered abundantly during the autumn.

The only difference in the treatment which we have occasion to note is, that this species appears to require a little more heat than the others. They succeed perfectly in the coolest and sunniest end of the warm house.

W. Watson

English Edition PART. II. March 1891.

LINDENIA

ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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CATASETUM SACCATUM LINDL.

A. Goossens pinx. P. De Pannemacker chrom.

PL. CCLXIX.

CATASETUM SACCATUM LINDL.

THE SAC-BEARING CATASETUM.

CATASETUM. Perigonii globoso-conniventis vel explanati foliola exteriora et interiora subaequalia. Labellum crassum, carnosum, nudum, ventricosum vel explanatum, fimbriatum, sub apice saccatum, obsolete trilobum. Columna erecta, libera, aptera, apice vel basi utrinque cirrhosa aut mutica. Anthera incomplete bilocularis, antice truncata. Pollinia 2, postice biloba vel sulcata, caudicula maxima nuda, demum elastica, contractilia, glandula cartilaginea, subquadrata.

Herbae americanae tropicae, epiphyticae vel epigeae, caulibus brevibus fusiformibus, foliorum exuviis vestitis; foliis basi vaginantibus plicatis, scapis radicalibus, floribus speciosis racemosis viridibus interdum purpureo-maculatis.

Catasetum L. C. RICHARD, in KUNTH, *Syn. Pl. Aeq.*, I, 330. — LINDL., *Coll. Bot.*, t. 40. — ID., *Gen. et Spec. Orchid.*, p. 155. — *Bot. Reg.*, 840, 966, 1667, 1708. — HOOK., *Exot. Flor.*, t. 90, 91, 151, 213; *Bot. Mag.*, t. 3269, 3329, 3388. — LODD., *Bot. Cab.*, t. 1344. — NEES, *Pl. hort. Bonn.*, t. 1. (Monachanthi et Myanthi species.)

Catasetum saccatum. Habitu ut in generis, scapo erecto multifloro, floribus magnis, sepalis patentibus lineari-lanceolatis acutis margine involutis, petalis similibus sepalo postico approximatis margine revolutis, labello leviter trilobo subrotundo abrupte acuminato fimbriato medio saccato, lobis arcte reflexis, ostio sacci contracto reniformi postice dentato, columna elongata, antennis irregulariter dispositis.

Catasetum saccatum LINDL., *Bot. Reg.*, XXVI (1840), *Misc.*, p. 76. — ID., *Sert. Orch.*, t. 41. — RCHB. F. in *Walp. Ann.*, VI, p. 571.

C. incurvum KLOTZSCH, in OTTO et DIETR. *Allg. Gartenz.*, 1854, p. 178.

The re-appearance of a long-lost and almost forgotten species is often a matter of greater interest than the discovery of a genuine novelty, and especially in the case of such a difficult genus as Catasetum, where there are numbers of imperfectly known species. The present species, which is one of the finest of the genus, hardly falls into this category, because there is a fairly good figure in LINDLEY's *Sertum Orchidacearum* and a specimen in the same author's herbarium. These, however, date from the time of its original introduction, since which it has only been heard of on two of three rare occasions.

It was originally described by Dr LINDLEY, in 1840, from a specimen said to have been introduced by Messrs LODDIGES at Hackney, from British Guiana; a figure was also soon afterwards published. From the subsequent history of the species there would appear to be grounds for suspecting this recorded habitat; yet I think it must be correct, for the author's herbarium contains a fine specimen labelled " Demerara, Schomburgk, " which ought to be conclusive. Nevertheless, its next appearance was from a far distant region.

In 1854 *Catasetum incurvum* was described by KLOTZSCH, from a specimen collected in Peru by WARSCEWICZ. Another specimen from the same source came into REICHENBACH's hands, who forwarded a flower to LINDLEY, with the remark that it appeared to be *Catasetum saccatum*. That author evidently agreed, for the flower is mounted upon the same sheet as the typical specimens, and comparing

them together now, I can only say that I am unable to detect any essential difference between them. KLOTZSCH's description of *C. incurvum* certainly agrees, and REICHENBACH afterwards reduced this species as a synonym of *C. saccatum*.

The specimen now figured is from the same region. It was introduced from a Peruvian habitat, at a considerable altitude, by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, some few months ago, and flowered in this collection early in the present year. A second specimen, though differing a little in some respects, is evidently a variety of the same, and shows that the species, like many others of the genus, is somewhat variable.

It is a splendid species, one of the largest of the genus. The sepals are over 2 $\frac{1}{4}$ inches long, marbled and almost suffused with purple-brown on a light green ground. The petals are a little shorter, and similar in colour, but the green ground colour is far more distinct, and the purple-brown blotches more sharply defined.

The lip is a remarkable organ. It is somewhat indistinctly three-lobed, each lobe being strongly fimbriate, and sharply reflexed from the fleshy base. It is green on the sides, with the disc and front lobe almost suffused with reddish-brown. The spur is somewhat compressed on the sides, the nearly reniform mouth being broadly margined with ivory-white. The column is over 1 $\frac{3}{4}$ inches long, and the two antennæ are disposed in different directions. One of them stands forward over the mouth of the spur, while the other lies along the face of the column, and is apparently functionless.

It belongs to the section Myanthus, as recently defined by me, and to the group with the antennæ in different planes. It is closely allied to *C. Christyanum* RCHB. F., but is larger in all its parts.

The female flowers are at present unknown, but it is to be hoped, now Catasetums are more frequently cultivated, and better understood, that this blank in our knowledge will soon be filled up.

R. A. ROLFE.

CATTLEYA GRANULOSA LINDL. var. BUYSSONIANA O'BRIEN

A. Goossens pinx. *P. De Pannemacker chrom.*

PL. CCLXX.

CATTLEYA GRANULOSA LINDL. var. BUYSSONIANA O'BRIEN.

COUNT DU BUYSSON'S VARIETY OF CATTLEYA GRANULOSA.

CATTLEYA. Vide *Lindenia,* vol. I, p. 15.

Cattleya granulosa. Pseudobulbis elongatis gracilibus teretibus demum sulcatis diphyllis, foliis oblongis obtusis coriaceis, racemis paucifloris, sepalo postico lanceolato-oblongo subobtuso, sepalis lateralibus subfalcatis caeteris similibus, petalis obovato-oblongis subobtusis undulatis, labello trilobo, lobis lateralibus semiovatis acutis columna aequalibus, lobo medio late unguiculato flabellato obovato emarginato denticulato granuloso, columna clavata.

Cattleya granulosa LINDL., *Bot. Reg.*, XXVIII (1842), t. I. — *Flore des Serres,* t. 198. — *Ann. de Gand,* II, t. 103. — ROLFE in *Gard. Chron.,* 1889, pars 1, p. 619.

Epidendrum granulosum RCHB. F. in *Walp. Ann.,* VI (1861), p. 319.

Var. asperata RCHB. F. in *Gard. Chron.,* 1886, pars 2, p. 681.

Var. Russelliana LINDL. *Bot. Reg.*, XXXI (1845), t. 59. — *Bot. Mag.*, t. 5048.

Var. Schofieldiana VEITCH. *Man. Orch. Pl.*, pt, 2, p. 36. — *Cattleya Schofieldiana* RCHB. F., in *Gard. Chron.,* 1882, pars 2, p. 808. — WARN. et WILL., *Orchid Album,* II, t. 93.

Var. Buyssoniana. Sepalis petalisque immaculatis.

Var. Buyssoniana O'BRIEN, in *Gard. Chron.,* 1890, pars 2, pp. 588, 589, fig. 116. — *Cattleya Du Buyssoniana* HORT., *Journ. des Orch.,* I, p. 278.

This beautiful *Cattleya*, whose portrait we now present to our readers, though at first thought to be a distinct species, is clearly a variety of the somewhat variable *C. granulosa* LINDL., with which it agrees in all its botanical characters. It is, nevertheless, a very distinct variety, readily distinguished by the total absence of spots from the sepals and petals, also by the lighter coloured lip, the crimson being almost confined to the numerous papillæ, or granulations, as they were formerly called, with which the surface is studded, and from which the species originally derived its name.

It was introduced, during last year, by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, from some part of Brazil, and flowered for the first time during the autumn.

It was exhibited at a meeting of L'ORCHIDÉENNE, of Brussels, on October 12th last, and was unanimously awarded a First-class Certificate, also at a meeting of the Royal Horticultural Society on October 14th, when it received an Award of Merit.

Its relation of the typical *C. granulosa*, and the varieties which have been successively described, will readily be seen by a comparison with the figures and descriptions here cited.

Cattleya granulosa was originally described by Dr. LINDLEY, in 1842, from a specimen said to have been discovered by Hartweg, two years previously, in Guatemala. A single plant was sent to the Horticultural Society of London,

without any intimation of the precise locality in which he found it. It is also said to have been sent from the same country by Mr. G. Ure Skinner. I cannot help thinking, however, that there is some error respecting these records. All later importations, so far as I am aware, have been from Brazil, and there are wild dried specimens, in the Kew Herbarium, gathered at Parahiba, N. E. Brazil. No confirmation of the Guatemalan habitat appears to be forthcoming, and as it is most unlikely that any Cattleya grows naturally in two such widely separated localities, we may regard the species as entirely Brazilian. The sepals and petals are olive-green, with a few small scattered red spots, and the front lobe of the lip white, covered with numerous crimson-purple papillæ.

The variety *Russelliana* next appeared, in 1845. It was sent to Sir W. Hooker, from Woburn, as a plant of Brazilian origin. It is characterised by its larger flowers, with broader segments, and more richly coloured lip.

The variety *Schofieldiana* appeared in 1882, being at first described as a distinct species. It flowered in the collection of Mr. G. W. Law-Schofield, of Rawtenstall, near Manchester. It is distinguished by its densely spotted segments and brilliantly coloured lip.

The variety *asperata* appeared four years later. The sepals and petals are brownish, spotted with deep purple, and the front lobe of the lip bright purple, bordered with white.

Thus it will be seen that our present novelty differs in its more delicate colours, and in the absence of spots from the sepals and petals. All the forms agree in habit, in the shape of the flowers, and, particularly, in the very characteristic lip, with its short, acute side lobes, and long unguiculate front lobe, covered with crimson papillæ, though they differ considerably in the colour of the flowers.

R. A. Rolfe.

ODONTOGLOSSUM × CLAESIANUM L. LIND.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXI.

ODONTOGLOSSUM × CLAESIANUM L. LIND.

M. F. CLAES' ODONTOGLOSSUM.

ODONTOGLOSSUM. Perigonii explanati foliola angusta acuminata libera, exteriora et interiora aequalia. Labellum unguiculatum, cum gynostematis basi continuum ecalcaratum indivisum, lamina patente basi cristata. Gynostema erectum membranaceo-marginatum apice utrinque alatum. Anthera bilocularis. Pollinia duo solida, caudicula lineari, glandula squamata.

Herbae americanae tropicae, epiphyticae, pseudobulbiferae; foliis ligulatis, scapo terminali vaginato, floribus speciosis.

KUNTH, in HUMB. et BONPL. *Nov. Gen. et Sp.*, I, 351. — ENDL., *Gen. Plant.*, p. 1466.

Odontoglossum Claesianum, forsan hybridum naturale *Od. crispi* cum *Od. luteo-purpureo* vel *Od. odorato* in statione earum specierum ab insectis productum.

In Nova Granata viator FL. CLAES legit.

We present to-day to our readers one of the most remarkable Odontoglots which flowered at the end of last year in the houses of L'HORTICULTURE INTERNATIONALE, of Brussels, and which was exhibited at a meeting of L'ORCHIDÉENNE on the 16th of December last, when it was unanimously awarded a First-class Certificate of Merit.

This new plant is certainly very difficult of classification. It belongs to a group which we agree to call " natural hybrids, " and is the result of the operations of insects in crossing *O. crispum* with some other species, most probably *O. luteo-purpureum* or *O. odoratum*.

We do not attempt to unravel its exact parentage, but content ourselves with bringing before the eyes of our readers the exact reproduction of its splendid inflorescence, convinced that it will be the better course, and that its beauty will recommend it sufficiently. In ascribing to it a new name, we do not pretend to assign to it the rank of a true species, which it, undoubtly, is not. We only intend by this simple appellation to designate a new form, of uncertain origin, which it would be difficult to denominate quite correctly now.

This beautiful novelty is dedicated to M. F. CLAES, landscape-gardener and collector of L'HORTICULTURE INTERNATIONALE, who discovered it during a mission undertaken for that establishment, in 1890, in New Granada. *O. Claesianum*, therefore, comes from the same country as the majority of the species of Odontoglossum, and particularly the celebrated *O. Alexandrae*, which, after having been so long the delight of all cultivators and lovers of beautiful flowers, is now on the point of disappearing, according to the account of this same traveller.

The narrative of this journey, published in a recent number of the *Journal des Orchidées*, is interesting from this point of view. We cite a few extracts, to

give our readers an idea of the present condition of collecting this species, formerly diffused in abundance over a considerable part of New Granada, imported to Europe by tens and hundreds of thousands, but at present becoming rare, notwithstanding its extreme vitality.

" For the search, one generally divides his men into groups of five to ten in number, each company collecting separately on the borders and openings of the forest. *O. Alexandrae* is generally met with in the glades of the forest, or spaces cleared by the fall of some old tree. It prefers to grow on the tree-trunks, rarely on the branches, and then only on the largest ones. It is collected with difficulty, because the natives show a great repugnance to climbing the trees, on account of the scorpions and the thousand other insects which are hidden there, and particularly the ants, whose sting is very sharp.

" One is, accordingly, generally restricted to the single resource of felling the trees, though this is not always an easy matter. The whole of a day must sometimes be taken by four or five men, working together, and when the work is finished, and the collector looks for his treasures, he sometimes perceives that they have not discovered any of the precious Orchid, and that all his efforts have been thrown away.

" The harvests are much less fruitful than formerly and may be estimated, under ordinary conditions, at twenty or twenty-five plants per day, with ten men. How much more numerous they were five years ago!

" After the plants are collected, they are placed under a tent in a place carefully arranged to serve as a sort of head-quarters. They are then cleaned and wiped thoroughly, in order to remove every trace of humidity, which induces rapid decay. Lastly, when a sufficient quantity is collected, and the journey is finished, they are packed up in cases, placed on the backs of mules, and transported to the port of shipment. The journey occupies about five days, under ordinary circumstances, and in the favourable season; but it is always necessary to reckon with unforeseen circumstances, and especially with the rains, so abundant in these regions, and which transform in a few hours the most gentle streams into impetuous torrents. It is also sometimes necessary to throw artificial bridges over these swollen water-courses, and to carry the cases over to the other bank, while the mules, relieved of their burdens, pass over as best they can by swimming.

" The point of departure of the vessels is the town of Honda, in the state of Tolima; and, in following the course of the Magdalena River, they next arrive at Barranquilla, the point where the river divides into two branches, the Upper Magdalena and the Lower Magdalena, and forms very dangerous rapids. Here the cases are transferred to the railway, and conveyed by it to Savanilla, where they are embarked by the transatlantic steamers to their European destination.

" The voyage across the ocean occupies about six weeks, sometimes two

(*To be continued on p. 22.*)

PHALAENOPSIS LOWII RCHB. F.

A. Goossens fecit. P. De Pannemaeker chrom.

PL. CCLXXII.

PHALAENOPSIS LOWII RCHB. F.

Mr. H. LOW'S PHALAENOPSIS.

PHALAENOPSIS. Perigonii explanati patentis foliola exteriora libera aequalia, interiora multo majora. Labellum gynostematis pede parum producto continuum, liberum, basi callosum, trilobum, lobis lateralibus recurvato-ascendentibus, intermedio angustiore, bicirrhoso. Gynostema in ovarium recumbens, semiteres, rostello gladiato. Anthera bilocularis. Pollinia duo subglobosa, caudicula plana, spathulata, glandula maxima cordata.

Phalaenopsis BLUME, *Bijdr.*, p. 294, t. 44.

Phalaenopsis Lowii, radice crasse fibrosa, foliis paucis oblongis acutis carnosis, scapo gracili subspithameo quadri-quinquefloro, bracteis minutis ovatis acutis, floribus remotis albis roseo-tinctis, sepalo superiore late ovato acuto, lateralibus oblongis, petalis latissime cuneatis obtusissimis, labello parvo longitudine sepalorum lateralium trilobo, lobis lateralibus brevibus linearibus reflexis, intermedio oblongo purpureo lineato, medio carinato apice eroso basi cristato, rostello longe proboscideo.

Phalaenopsis Lowii, RCHB. F. in *Bot. Zeit.*, 1862, p. 214. — *Bot. Mag.*, t. 5351.

At first sight *Phalaenopsis Lowii* calls to mind *P. rosea*, LINDL., or *P. equestris*, RCHB. F., but the two are markedly different from each other, and it is difficult to say which of them is the more beautiful. Moreover, all the species which constitute the genus are distinguished by their exquisite grace. The elegance of their forms and the charms of their colour give a pleasing harmony, surpassing the varied tints of the most brilliant moths. If one compares the inflorescences of the several species and varieties whose portraits have successively been given in the *Lindenia*, *P. Stuartiana var. punctulata*, with white flowers dotted with brownish-red; *P. Sanderiana*, with the perianth white slightly tinged with purple; *P. sumatrana*, with segments yellow barred with brown; *P. amabilis*, with large white inflorescences; *P. Luddemanniana*, with yellowish-white flowers transversely striped with violet; *P. Schilleriana*, with panicles of a splendid rose-pink and, lastly, *P. Esmeralda var. candidula*, with white segments tinted with amethyst, they will be convinced, with us, that the group of Phalaenopsis, relative to its size, is one of the richest for the colouration and graceful bearing of its species.

Phalaenopsis Lowii is of a nature to confirm fully this favourable impression. It is remarkable for its pretty white flowers tinted with delicate rose, its labellum, with the front lobe purple, enlarged and fimbriate near the summit; its column also of a beautiful reddish purple and a little curved, and its rostellum having the aspect of the head of a long-beaked bird. The plant has somewhat thickened fibrous roots; its leaves, few in number, are oblong, acute, and of firm consistence; and its racemes are branched, and disposed in loose clusters over the slender peduncles, and about seven or eight inches long; each branch has rarely more than five flowers.

This graceful species is a native of Moulmein, where it was discovered by the Rev. C. S. P. Parish. It was introduced to Europe by Messrs. Low and Son, of Clapton, in whose establishment it flowered for the first time in 1861. It was described, together with many other new Orchids, by Prof. Reichenbach, who at that time paid a visit to this horticultural establishment. The description was published in the *Botanische Zeitung* for 1862. As it is said with reason in the *Botanical Magazine*, if for size and purity of white in its flowers *Phalaenopsis Lowii* must give precedence to the magnificent *P. amabilis*, in return, it surpasses this by the extreme delicacy of tint of the perianth.

(*Continued from page 20.*)

months, but this long voyage is less fatal to Odontoglots than the journey from Honda to Barranquilla, during which they are almost constantly exposed to a tropical heat. This is the time when they suffer most, and a certain number of the plants are generally found in a state of putrefaction when they arrive at the coast.

" We see how much time and expense of all kinds are entailed in the work of collecting, of which difficulties amateurs who make their first attempts with this admirable Orchid, are not aware. It is certainly astonishing that the prices charged are so reasonable when the demand is so large; but they will gradually become more expensive, for it is easy to foresee that a revolution is very near, because *Odontoglossum Alexandrae* is becoming more and more rare, and soon it will be impossible to find any. "

This beautiful novelty is now in the celebrated collections of M. G. Warocqué, of Mariemont.

English Edition PART. III. April 1891.

LINDENIA

ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

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MORMODES LAWRENCEANUM ROLFE

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXIII.

MORMODES LAWRENCEANUM ROLFE.

SIR TREVOR LAWRENCE'S MORMODES.

ETYMOLOGY : From *μορμώ, a frightful-looking object*, or *a goblin*, in allusion to the strange appearance of the flowers.

MORMODES. Sepala libera, subaequalia, patentia vel reflexa, rarius conniventia, saepius angusta. Petala sepalis similia vel paullo latiora. Labellum cum basi columnae continuum, a basi patente oblique-incurvo ascendens, plus minus in unguem saepissime convexum contractum, superne latius, reduplicatum vel rarius concavum, integer vel raro ciliato-edenticulatum; lobi laterales saepissime reflexi rarius plano-patentes, medius saepius acutus et semper ad apicem columnae adpressus. Columna crassiuscula, oblique contorta, antice concava, ecirrosa exalata apoda; clinandrium poste longe acuminatum. Anthera terminalis, opercularis, incumbens, convexa, dorso acuminata, 1-locularis vel imperfecte 2-locularis; pollinia 4, per paria sibimet incumbentia, vel 2, sulcata, cerea, oblonga, inappendiculata, anthera dehiscente stipiti loriformi affixa, glandula magna.

Herbae epiphyticae, caulibus brevibus plurifoliatis mox in pseudobulbos oblongos vel fusiformes carnosos plurivaginatos incrassatis. Folia lanceolata, plicato venosa. Scapi ad axillibus pseudobulborum simplices, racemis multifloris, saepius elongatis. Flores speciosi.

Species notae circa 20, Columbiae et Brasiliae usque ad Mexicum incolae.

Mormodes LINDL. *Nat. Syst. Bot.*, ed. 2 (1836), p. 446. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 552.

Cyclosia KLOTZSCH in *Allg. Gartenz.*, VI (1838), p. 305.

Mormodes Lawrenceanum. Elatum, habitu ut in generis, scapo erecto elongato multifloro, floribus magnis, sepalis lanceolato-linearibus acutis 2,5 cm. longis reflexis, petalis similibus incurvis, labello integro late reniformi-ovato pubescente, marginibus arcte reflexis, apice triangulari-acuminato 4 mm. longo reflexo.

Mormodes Lawrenceanum ROLFE, *supra.*

Another fine species of this interesting but very difficult genus has just appeared. It is a native of New Granada, whence it was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, a short time ago, and flowered for the first time in that establishment during January of the present year. *Mormodes Cartoni*, HOOK., is apparently its nearest ally, and the colours of the two are very similar, but the present species may be readily distinguished by its proportionately narrower, more acute segments, and the markedly pubescent lip.

It is dedicated to Sir TREVOR LAWRENCE, Bart., M. P., of Burford Lodge, Dorking, Surrey, the possessor of one of the finest collections of Orchids in existence.

The general character of the plant is well shown in the annexed plate. Three racemes were produced from the same pseudobulb, each about 1 ½ feet high, and bearing numerous large flowers. The sepals and petals are light yellowish-green, the former having five purple-brown lines, and the latter seven of the same colour, but rather more distinct and continuous than those of the sepals. The lip is light ochre-yellow, with a few light brown spots near the base, markedly pubescent on the face, but glabrous on the back, and with a few interrupted light brown

stripes down the centre. The column is pale whitish-yellow, speckled all over with light purple-brown.

The genus is a very remarkable one, and the generic name applied by LINDLEY is by no means so fanciful an one as might be supposed. Whether the flowers resemble goblins, or otherwise, may be an open question, and may be left for those better versed in the physiognomy of these mythical beings to decide. At all events their appearance is exceedingly grotesque, and it is interesting to note that their singular structure is essentially connected with the fertilisation of the ovules. The column is invariably bent downwards with a partial twist, and the lip twisted upwards to meet it, its apex being perched exactly on the tip of the anther-case. When an insect visits the flower the anther-case is ruptured, by means of a small portion of sensitive tissue, and the elastic pollinia is ejected, and firmly attached to the insect, which on visiting another flower brings the pollen in contact with the stigma, and thus effects fertilisation. One other curious character remains to be mentioned : the flowers are borne in a more or less distichous raceme, those on one side having the column and lip twisted one way, while those on the other side are invariably twisted in the opposite direction.

Nor is singularity of structure the only feature of the genus. A few of the species, at least, are decidedly handsome. *M. luxatum* and its variety *eburneum* are both very fine. One of the latter is recorded from Sir TREVOR LAWRENCE's collection, bearing a majestic peduncle nearly 3 feet high, with 25 large ivory-white sweetly-scented flowers, and a curiously shell-shaped lip. *M. Uncia* (syn. *M. Greenii*) has large flowers with broad segments spotted with dark brown on a light yellow ground. *M. igneum* has crimson flowers, while *M. atropurpureum* and *M. Hookeri* are both dark purple. *M. Ocanae* and *M. pardinum* have both handsome spotted flowers, while the variety *unicolor* of the latter is of a bright canary-yellow, the raceme being very effective. *M. colossus* is the giant of the genus, while *M. buccinator* is the most polymorphic and polychromic Orchid in existence, according to Reichenbach.

Yet Mormodes are not very popular in gardens. One reason is that they are very difficult to cultivate successfully for any length of time. Like Catasetums, they do not get through the resting period as well as could be wished. Nor do they produce such a mass of flowers nor last so long as many of the more popular Orchids. Nevertheless the species are worthy of more attention than is generally accorded to them. If some one would devote a small house to the three interesting and allied genera, *Catasetum*, *Cycnoches*, and *Mormodes*, where their wants could be attended to throughout the year, it is probable that more success would be attained than in a mixed collection. Their grotesque forms, sportive habits, and elegant combinations of colour would amply repay a little extra attention.

R. A. ROLFE.

ONCIDIUM LEOPOLDIANUM ROLFE

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXIV.

ONCIDIUM LEOPOLDIANUM ROLFE.

KING LEOPOLD'S ONCIDIUM.

ONCIDIUM SWARTZ. Perigonii explanati foliola exteriora undulata, lateralia libera vel sub labello connata; interiora conformia. Labellum maximum, gynostemati continuum, ecalcaratum, lobatum, basi tuberculatum vel cristatum. Gynostema erectum, semiteres, apice utrinque alatum; anthera incomplete bilocularis, rostello abbreviato vel elongato, rostrata. Pollinia 2, postice sulcata; caudicula plana; glandula oblonga.

Herbae americanae tropicae saepius pseudobulbosae; foliis coriaceis, planis, complicatis, triquetris vel teretibus; scapis paniculatis, vaginatis, rariusve simplicibus; floribus speciosis, ut plurimum luteis, saepe maculatis, rarius albis.

R. BROWN in AIT. *Hort. Kew.* II, 5,215. — KUNTH, *Nov. Gen. et Sp.* tab. 79-82. — ENDL. *Gen. Plant.*, 1460.

Oncidium Leopoldianum. Habitu *O. macranthi* LINDL., pseudobulbis longioribus et angustioribus scapo valde elongato ramoso multifloro, bracteis late ovatis acutis 7-8 cm. longis, floribus mediocribus, sepalis breviter unguiculatis, sepalo postico late elliptico obtuso 1,2 cm. lato, sepalis lateralibus elliptico-ovatis obtusis 1-3 cm. latis, petalis elliptico-ovatis subacutis sepalis paullo parvioribus, labello carnoso trulliformi leviter trilobo subacuto, 1,5 cm. longo, 1 cm. lato, lobis lateralibus rotundatis, callo trilamellato, lamello medio paullo majori, columna brevi, alis carnosis rotundatis.

Oncidium Leopoldianum ROLFE, in *Gard. Chron.*, 1890, pars II, p. 556. — *Journ. des Orch.*, vol. I, p. 293.

This is a noble and very handsome species, recently introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels. It belongs to the *Cyrtochilum* section, to the group defined by LINDLEY, in his *Folia Orchidacea*, as *Microchila exaurita*. It is closely allied to *O. corynephorum*, LINDL., which, however, is readily distinguished by its broadly rounded lip, and other characters.

It is dedicated to His Majesty Leopold II, King of the Belgians.

Oncidium Leopoldianum, like many of its allies, has a very long scape. It is said to attain a height of several metres, and to bear as many as three hundred flowers. The two branches of the panicle before me contain fourteen dried flowers, and undoubtedly indicate a species of great beauty. In this condition they measure 1 $\frac{5}{8}$ inches in diameter, and are very compactly arranged on the raceme. The colours are very beautiful and afford a decided contrast with the majority of Oncidiums, in which yellows and browns predominate. The sepals and petals are white, each with a purple disc, the lip being of a violet-purple hue, with the crest and part of the column yellow. When it becomes established, it will doubtless prove a great acquisition.

Its nearest ally, *O. corynephorum* LINDL., has evidently similar colours. It is only known by dried specimens, collected by MATTHEWS, in Peru, and it is strange that so fine a species should still remain unknown in gardens. Specimens may have been sent and failed to reach their destination alive, for it is well known

that this section is difficult to import alive, and several other fine things are at present only known from dried specimens.

The section *Cyrtochilum*, or *Microchila*, as LINDLEY called it, is distinguished from the remainder of the genus Oncidium by its comparatively small and very leathery lip. It is the most distinct and easily recognised section of the genus, but there are certain small-flowered species referred to Odontoglossum, which are only separated from it with difficulty, and I am not sure whether a careful revision of all the species would not show the desirability of some rearrangement.

Three marked subsections are recognised, *auriculatae*, *exauritae*, and *cimiciferae*, and it is the last-named one which may be said to almost merge imperceptibly into the section *Myanthum* of Odontoglossum.

The subsection *auriculatae* is characterised by a pair of small auricles at the base of the claw of the sepals, those of the dorsal one being generally larger than of the others. It comprises the well-known *O. macranthum*, *O. serratum*, *O. superbiens*, *O. lamelligerum*, and several other cultivated forms, but probably half the species are as yet only known from wild specimens.

The subsection *exauritae*, to which *O. Leopoldianum* belongs, has rather smaller flowers in which the auricles at the base of the sepals are wanting. Of the species known in cultivation are *O. loxense*, a remarkable and very beautiful plant, *O. zebrinum*, *O. insculptum*, and *O. phylloglossum*, but a greater number yet remain to be introduced.

The last subsection, *cimiciferae*, consists of small-flowered species, which agree with the preceding one in wanting the auricles at the base of the sepals. The species are not of much horticultural value, yet one at least must be excepted, namely *O. murinum*. I have seen a large branching panicle of this plant crowded with a multitude of bright yellow flowers, each with a purple column, whose beauty was undeniable. *O. microchilum* and *O. saltabundum* are also known in cultivation, while several others are known from dried specimens.

R. A. ROLFE.

ZYGOPETALUM LINDENIAE ROLFE

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXV.

ZYGOPETALUM LINDENIAE ROLFE.

MADAME LINDEN'S ZYGOPETALUM.

ZYGOPETALUM. Perigonii explanati foliola exteriora et interiora subaequalia ascendentia cum columnae pede producto connata. Labellum anticum indivisum patens ungue ascendente, crista magna transversa carnosa. Columna brevis arcuata semiteres. Anthera incomplete bilocularis. Pollinia 2 bipartibilia in glandula transversa subsessilia.

Herbae americanae tropicae epigeae subacaules vel pseudobulbosae, foliis plicatis patentibus, floribus magnis speciosis, labello discolore.

Zygopetalum, HOOK. *Bot. Mag.*, t. 2748, 3585, 3674, 3686, 3812. — LINDL. *Bot. Reg.*, t. 1443, 1857. — LODD. *Bot. Cab.*, t. 1664. — MEISN., *Gen. Pl.*. 378. — RCHB. F. in *Walp. Ann.*, VI, 650. — ENDLICH., *Gen. Plant.*, 1445.

Zygopetalum Lindeniae. Euzygopetalum, rhizomate repente, pseudobulbis approximatis vel subdistantibus ovato-oblongis subcompressis 2,5-4 cm. longis, foliis lanceolatis acuminatis 8-12 cm. longis 1,5-2,5 cm. latis, scapo foliis breviore 2-3 floro, floribus magnis insignibus, sepalis lanceolatis acuminatis subundulatis, petalis similibus, labello ovato breviter acuminato, callo hippocrepiformi crassissimo radiato-sulcato, columna crassa apice incurva, alis amplis carnosis.

Zygopetalum Lindeniae ROLFE, *supra.*

enezuela appears to be rich in novelties. Within a comparatively short period have appeared *Maxillaria longisepala*, *Zygopetalum Jorisianum*, *Peristeria aspersa*, and now we have another, a really fine and very distinct species, to record. It is a Zygopetalum, discovered by M. BUNGEROTH, and by him sent to Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels. It flowered in that establishment three years ago. There is a small stock of plants, which are now becoming properly established, and promise to flower during the coming season.

In habit and general character it bears considerable resemblance to *Zygopetalum rostratum*, yet it belongs to a different section of the genus, for it has no trace of the long rostrate anther of the section *Zygosepalum*, while the crest is also totally different. In fact it has the large fleshy crest and other characters of *Euzygopetalum*, to which section it undoubtedly belongs. The other sections with solitary flowered scapes are quite out of the question. I find no species with which it is strictly comparable. In habit it resembles *Z. Sanderianum*, but in no other character, while *Z. rostratum*, which it undoubtedly much resembles in other respects, has totally different sectional characters. It must therefore be considered a very distinct species.

The rhizome creeps upon the branches of the trees, emitting small pseudobulbs at short intervals, which are ovate-oblong in shape, somewhat compressed, and bear two lanceolate acuminate leaves about 6 inches long. The scapes are a little shorter than the leaves, and bear two or three large flowers. The

lanceolate acuminate sepals and petals are of a light rose-pink colour, and the ovate shortly acuminate lip white with numerous radiating rose-coloured lines extending throughout its entire length. The large fleshy crest is marked in the same way, and the column is white with some pink lines on the face and some splashes of the same colour on the back, and also on the fleshy wings.

This elegant species is dedicated to Madame Linden, wife of M. Lucien Linden.

The section *Euzygopetalum* contains a number of very handsome species, of great horticultural value, though several of them are very nearly allied, and difficult to separate satisfactorily. *Z. intermedium*, *crinitum*, *Mackayi*, and *brachypetalum*, for example, are sometimes confused in gardens, or, in other words, are found doing duty for each other, and it is not always easy to find botanical characters to separate them absolutely. *Z. maxillare* is another handsome form, easily recognised by its gigantic crest. *Z. Murrayanum*, from the Organ mountains, and its near ally *Z. Burkei*, from Roraima, are also sufficiently distinct, as is *Z. Sanderianum*. The three recent additions to the group, however, introduce a greater amount of variety than would *a priori* be expected. *Z. caulescens* has a remarkable caulescent habit which is quite novel in the group. *Z. Jorisianum* introduces a novelty of another kind, in its three-lobed beautifully fimbriate lip; while *Z. Lindeniae* has pecularities both in shape and colour.

There are also two or three very useful hybrids in the group, of which we may mention *Z.* × *Sedeni* and *Z.* × *Clayi*, while *Z.* × *leopardinum* is a beautiful little form whose parentage remains doubtful. It has been supposed to be some one of the above-named species crossed with *Colax jugosus*, a supposition which may ultimately prove correct. *Zygopetalum crinitum*, however, crossed with *Colax jugosus*, yielded the handsome bigener called *Zygocolax* × *Veitchii*, which is not identical in the shape of its pollinary apparatus, and thus renders confirmation in the former case necessary.

R. A. Rolfe.

CATTLEYA × PARTHENIA A. BLEU

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXVI.

CATTLEYA × PARTHENIA A. BLEU.

MAIDEN CATTLEYA.

CATTLEYA. Vide *Lindenia*, p. 5.

Cattleya × parthenia. Hybrida inter *C.* × *fimbriatam* ♀ (*C. amethystina* ♀ × *C. Acklandiae* ♂) et *C. Mossiae* ♂ producta. Pseudobulbis 20 cm. longis fusiformibus, elongatis depressis, nunc monophyllis saepius diphyllis, ad instar *Laeliae Schillerianae* parvulae; foliis 16-18 cm. longis, 4 cm. latis, lanceolato-ellpiticis; sepalis rigidis carnosis crassis, 7 cm. longis, 1,5 cm. latis, niveis; petalis aequilongis, 3 cm. latis, eburneis, ovatis, undulatis, limbo roseolo tinctis; labello fimbriato extus lacteo, intus basin versus sulphureo medio 4 lineis carmineis distincto.

Among the varied products created by the skill of the hybridisers of Orchids, the present one ought to excite particular interest, both on account of its enchanting beauty, the relative rarity of Cattleya hybrids, and the exceptional circumstances under which it was obtained. It is, in reality, a secondary hybrid, raised from the celebrated *C. fimbriata* which M. Bleu himself produced, and which has become the progenitor of a numerous and very curious race.

We cannot do better than give to our readers the information which the honourable general Secretary of the " Société nationale d'Horticulture de France " has obligingly given us, and which is of a nature to interest deeply all those who, whether far or near, are occupied in the work of hybridisation.

" This new Cattleya ", writes M. Bleu, " is a secondary hybrid which, for " the stability of its characters, which we meet with in different individuals, may " be considered as a well defined type, much more easily recognised than the " majority of the species of the *labiata* group. It is sufficient, indeed, to see " one of these plants in order to distinguish it, without the least hesitation, from " all its congeners; which is not the case with the hybrids of the first operation. " Three individuals of this latter were successfully reared; the one acquired, " in all its parts, the characters of the mother, while the two others borrowed " those of the father; and the difference between them is so great, that it is " indispensable to have the key of the enigma in order to recognise their " consanguinity.

" This first cross was effected in 1870, between *C. amethystina*, as the " seed parent, and *C. Aclandiae*. It is from the plant which resembles " *C. amethystina*, crossed in 1878, the time of its first flowering, with *C. Mossiae*, " that *C.* × *parthenia* was produced.

" One particular respecting this novelty which is worthy of mention, is, " that the time of flowering is far from being constant for different individuals.

" In point of fact the first rewarded me with the sight of the expansion of " its flowers about the end of April 1889, the second in August of the same " year, then a third at the end of October. In 1890, three other individuals " exhibited successively their splendid inflorescences, the first in the latter " half of May, the second about 20th. of August (this is the one repre- " sented in the accompanying plate of the *Lindenia*), and the third in the " early days of November. Lastly, a fourth would appear to have intended to " flower, in its turn, in December, or later, in January 1891, as it showed " a flowerstalk carrying three buds, which had already attained a height of " over an inch, when by some inexplicable cause, which is pretty frequent " in the winter, it was suddenly arrested in the attempt. Several having already " flowered twice at the same period, is it not permissible to hope that the others " will do the same? In this case would not these diverse varieties justify the " epithets, *C.* × *Parthenia vernalis*, *aestivalis*, *autumnalis*, and *hibernalis?* To the " unquestionable charms which the eminent artist has so faithfully rendered " in the annexed figure must be added the advantage of being able, in the " possession of the collection, to enjoy a few flowers almost throughout " the year.

" Here is an abridged description of the plant : —

" Pseudobulbs 7 or 8 inches high, fusiform, elongated and depressed, " sometimes monophyllous, but more often diphyllous, recalling a young *Laelia* " *Schilleriana*. Leaves 6 to 7 inches long, one-fourth as broad, lanceolate- " elliptical. The flower, of which all the segments are of the most irreproa- " chable deportment, has rigid sepals, of fleshy texture, succulent, over 2 $\frac{3}{4}$ inches " long, over $\frac{1}{2}$ inch broad, and of the purest white. The petals, which are of " the same length but three times as broad, are of mother-of-pearl whiteness, " oval, gracefully, undulated, and lightly tinted with rose near the margin. The " lip is elegantly fimbriated, and expanded to the top of the throat, which " latter is porcelain-white outside; the interior, sulphur-yellow at the base, is " marked to the middle with four carmine lines; the yellow which extends " about two-thirds to the apex, is then replaced by a brillant violet-rose colour, " completely striped with carmine. "

English Edition PART. IV. May 1891.

LINDENIA

ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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CYPRIPEDIUM × DESBOISIANUM HORT.

P. De Pannemaeker pinx. et chrom.

PL. CCLXXVII.

CYPRIPEDIUM × DESBOISIANUM HORT.

M. FR. DESBOIS' CYPRIPEDIUM.

CYPRIPEDIUM. Perigonii explanati foliola exteriora lateralia uninervia labello supposita libera vel inter se connata, supremum conforme quinquenerve, interiora angustiora. Labellum maximum inflatum calceiforme. Gynostema breve cernuum apice trifidum lobis lateralibus subtus antheriferis intermedio sterili petaloideo dilatato. Antherae loculis discretis subbivalves. Pollen pulvereo-granulosum, stigmate deltoideo gynostematis faciem infra antheras occupante. Capsula unilocularis, placentis parietalibus tribus. Semina plurima scobiformia.

Herbae in hemispherae borealis temperatis et frigidiusculis terris obviae, in America nonnihil frequentiores, radicibus fibrosis, caulibus foliosis, floribus magnis speciosis.

LINN. *Gen.* 1015. — ENDL., *Gen. Plant.*, 1618.

Cypripedium × *Desboisianum*. Hybridum inter *C. venustum* ♀ et *C. Boxallii atratum* ♂ productum.

Cypripedium × *Desboisianum*, HORT., *Journal des Orch.*, I, p. 343.

The flowing tide of the products of hybridisation places the nomenclature of Orchids in serious danger, much more than the erroneous or contradictory designations of the first epoch of discovery. By degrees, and for some years, especially, the number of hybrids has become so considerable, that the most retentive memory, or the most exact inspection, will ere long be insufficient to distinguish them from each other. More are continually appearing, moreover, and the differences between them, and the species from which they arise, become slight and difficult to lay hold of; they bridge over the intervals which separate them, and complete the transition.

The crosses between the same two species are already variable enough, from the point of view of colour, and also of form, according as they proceed from one or the other variety, and the limits between the different forms will be still more invisible when the hybrids shall also have been combined between themselves and with other species.

Cattleya × *parthenia*, which we described in the preceding number, furnishes a most conclusive example of this, as it is impossible to discern any relationship whatever between two plants issuing from the same seed-pod. When the cases of this kind become more numerous, it will be no longer possible for even a good judge to indicate the origin and the name of an Orchid.

The raiser of *Cattleya* × *parthenia*, M. ALFRED BLEU, should be better able than most others to enlighten us on these points, because the numerous products which he still holds in reserve will make a sensation in the future. More recently he has pointed out to us the flowering of a new hybrid, *Cypripedium* × *amabile*, of which one of the parents, *C.* × *javanico-superbiens*, is itself a hybrid.

The genus Cypripedium will be, from another reason, one of the first to feel the effects of this confusion, because it lends itself readily to artificial fertilisation, and as it finds favour on all hands, and is extremely popular, the hybrids of the genus abound. There is not a month during the last two or three years in which we have not been able to point out at least one novelty. Among this multitude it is expedient, in the mean time, to make a choice.

C. × *Desboisianum* is assuredly one of the most remarkable which has been produced for a long time, and its appearance has been received in a most favourable manner by very competent judges, for it has obtained a Certificate of merit by acclamation at a meeting of the " Société Royale d'Horticulture de Gand, " and the " Chambre Syndicale des Horticulteurs belges, " on december 8, 1890.

It was produced in the establishment of Mssrs Vervaet & C°, of Ghent, who have dedicated it to M. Fr. Desbois, one of the veterans of horticulture, author of the very interesting *Monographie des Cypripedium, Selenipedium et Uropedium.*

Here is the description which M. Desbois himself has given of the new hybrid, in the *Journal des Orchidées :*

" The upper sepal has the ground-colour greenish-yellow, tinted with white, " strongly spotted with deep black, and bordered with cream-white. The lower " sepal is straw-white, with a dark green line. The petals are broad, undulate " on the upper part, clear yellow at the base, mahogany-red with a coppery " refulgence below, and rather strongly marked with large black dots from centre " to base. The lip is large, elongated, reddish-maroon about the opening; olive " green, veined with emerald green, at the extremity, and bordered with " golden-yellow at the orifice. Staminode flesh-pink in the centre, marked with " dark green hieroglyphics, and bordered with cream-yellow.

" The foliage is beautiful, broad, stout and robust, and recalls that of " *C.* × *Crossianum;* it is very strongly dotted with reddish-brown at the base. "

The entire stock of this remarkable hybrid has been acquired by the establishment L'Horticulture Internationale, Parc Leopold, Brussels, who have introduced it to commerce during March of the present year.

ONCIDIUM LAMELLIGERUM RCHB. F.

PL. CCLXXVIII.

ONCIDIUM LAMELLIGERUM RCHB. F.

THE PLATE-BEARING ONCIDIUM.

ONCIDIUM. Vide *supra*, p. 25.

Oncidium lamelligerum. Rhizomate subscandente, pseudobulbis ovoideo-oblongis subcompressis, basi 4-6 foliatis, apice 2-foliatis, foliis lineari-lanceolatis acutis, scapo amplo ramoso multifloro, bracteis ovato-oblongis, floribus magnis, sepalis unguiculatis basi auriculatis, sepalo postico lamina reniformi vel suborbiculato crispo-undulato, sepalis lateralibus laminis ovato-oblongis acutis crispo-undulatis, petalis late unguiculatis laminis ovato-oblongis subacutis crispo-undulatis, labello parvo carnoso trifido, lobis lateralibus anguste triangulis acutis, lobo medio lineari-lanceolatis acutis, carinis humilibus ternis in basi, carina ligulata ancipiti erecta anteposita, carina lineari erecta breviori utrinque lamellis ternis antepositis lateralibus subquadratis, lobulatis extrorsis, columna brevi, alis falcato-oblongis acutis basi angustis.

Oncidium lamelligerum RCHB. F., in *Gard. Chron.*, 1876, pars 2, p. 808. — ID., 1878, pars 2, p. 684. — WARN. et WILL. *Orchid Album*, VII, t. 315.

This handsome species is a native of Ecuador, whence it was originally introduced by EDWARD KLABOCH, over fifteen years ago. No further particulars are recorded by REICHENBACH, but the description appears to have been made from dried specimens. Living plants, however, appear to have been introduced.

In 1878 a plant flowered in the collection of C. DORMAN, Esq., of Lawrie Park, Sydenham, flowers of which were sent to REICHENBACH by Messrs JAMES VEITCH and SONS, of Chelsea. This plant is believed to have been one introduced by KLABOCH.

REICHENBACH compared the species with *O. trifurcatum*, LINDL., though it seems equally near *O. superbiens*, RCHB. F., in general character, while the crest of the lip somewhat resembles that organ in *O. falcipetalum*, LINDL., and *O. serratum*, LINDL., though larger and more prominent. By this character it may be readily distinguished.

Like its allies, it is a scandent species, its stout rhizomes emitting a number of fleshy roots, and producing at intervals large oblong pseudobulbs, each with a pair of linear-lanceolate leaves at its apex, and about six similar ones at its base. The raceme is long and branching, and bearing numerous large and handsome flowers, whose general character is admirably pourtrayed in the annexed plate. The undulate sepals are of a light warm brown, the upper one very distinctly edged with bright yellow, the lateral ones slightly margined with the same colour. The petals are a little smaller, strongly undulate, light yellow, with numerous brown blotches on the lower half, which are often somewhat transversely arranged. The side lobes of the lip are dark purple, and the front

lobe of a somewhat lighter shade. The crest, which consists of several rather prominent lamellae, is white. The stout falcate column-wings are dark purple.

Oncidium lamelligerum grows on the branches of the forest trees in its native country, affecting situations which are cool and moist. It should therefore be placed in the cool house, with *O. macranthum* and others that occur naturally in the same region. In the Odontoglossum house it is said to grow admirably, under the same cultural conditions as is given to *Odontoglossum crispum* and its varieties. Very little fireheat is required; the plants should be kept cool and moist, and as much air admitted, both by day and night, as the outside temperature will permit, thus endeavouring to imitate natural surroundings as nearly as the means at disposal will allow.

Oncidiums of this section, when once established, are said to dislike having their roots disturbed, and these being thick and fleshy are very liable to injury unless great care is taken in removing old soil and renewing it. Shading should also be carefully attended to, which is said to be the secret of success in maintaining the rich deep green colour of the leaves.

The accompanying plate was prepared from a fine specimen which has recently flowered in the collection of Charles Winn, Esq., of The Uplands, Selly Hill, Birmingham.

R. A. Rolfe.

CYPRIPEDIUM × BRAGAIANUM L. LIND.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCLXXIX.

CYPRIPEDIUM × BRAGAIANUM L. LIND.

SENHOR JOSÉ T. DA SILVA BRAGA'S CYPRIPEDIUM.

CYPRIPEDIUM. Vide *supra*, p. 31.

Cypripedium × *Bragaianum*. Hybridum inter *C.* × *hirsutissimum coerulescens* ♀ et *C. Boxallii* ♂ *atratum* productum.

Cypripedium × *Bragaianum*, L. LIND., in *Journal des Orch.*, II, p. 55.

ere is yet another Cypripedium hybrid which deserves to be preserved, and to leave a lasting impression among the numerous productions of which we have spoken on a preceding page. It belongs also to the Brussels establishment, L'HORTICULTURE INTERNATIONALE.

C. × *Bragaianum*, like the preceding, was raised from *B. Boxallii atratum*, but in this case the pollen-parent was not *C. venustum*, but a superb variety of *C. hirsutissimum*, *C. h. cœrulescens*. This parent is manifestly apparent in the product with which we are occupied here; the petals, particularly, with their rose-violet coloration at the extremities, the black dots which over-run the basal third, and the similar dots at the base of the dorsal sepal, resemble closely *C. hirsutissimum*. On the other hand, the size of the last-named organ, and the deep black colour which covers it almost completely, diminishing lightly towards the summit, as also the size of the labellum, recall rather *C. Boxallii*.

In habit, *C.* × *Bragaianum* is tolerably intermediate between the two parents; it is more handsome, and has a more elegant habit, than *C. hirsutissimum*, though the dorsal sepal has a somewhat similar design. Its aspect is really superb, and of great distinction, and from this point of view it is difficult to compare it with any other form whatever.

It is dedicated to Senhor J. TEIXERA DA SILVA BRAGA, a most enlightened amateur, whose collection may be destined later to take rank among the most sumptuous, and the choicest, not only in Portugal, but on the entire continent.

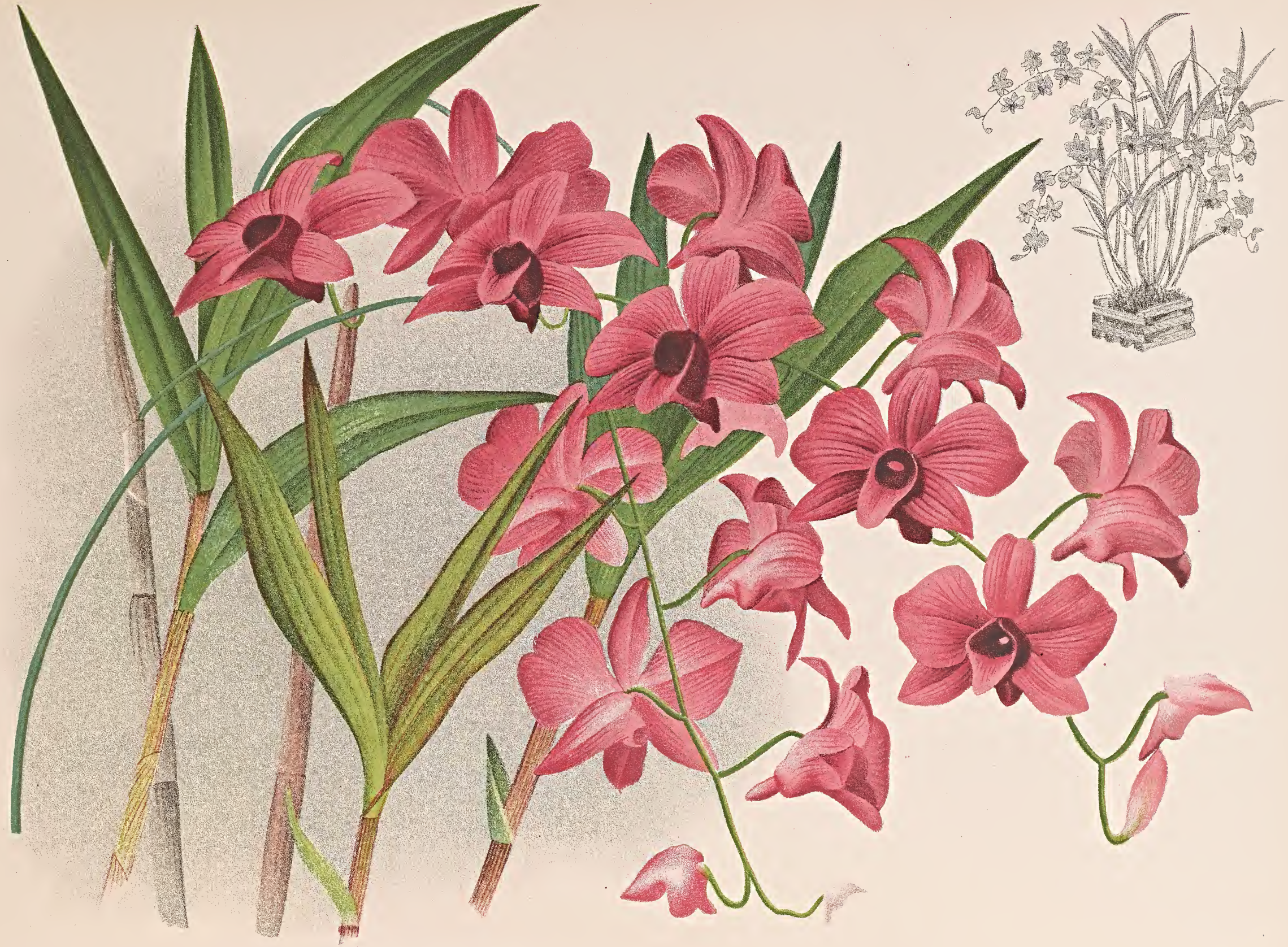
CYPRIPEDIUM × ENGELHARDTAE L. LIND. — Although during many years the genus Cypripedium has given rise to very numerous and various crosses, the search for more of these remarkable novelties should not be discontinued, for by choosing the most beautiful varieties, — which has not

always been done in the past, — notable improvements may be obtained now on those crosses which have now become ancient and classical.

The crossing of *C. insigne Maulei* and *C. Spicerianum*, which has already given *C.* × *Leeanum superbum*, has now, in like manner, produced a new and superior form, *C.* × *Engelhardtae*, which we have had painted, and which we shall have the pleasure to present, in an early number, to the readers of the *Lindenia*. In this magnificent hybrid the petals and the lip are entirely coloured with a splendid golden-yellow tint, and the very large dorsal sepal is only dotted with clear violaceous-brown on a green ground of small extent towards the base, with a violet line following the median nerve.

C. × *Leeanum superbum* was classed in the second rank in the plebiscite of Cypripedium opened last year by the *Journal des Orchidées;* we doubt not that the new form, which is a notable improvement, will take a place in the first rank of this popular genus.

C. × *Engelhardtae* is dedicated to Mrs. D'ENGELHARDT, wife of M. CONSTANTIN D'ENGELHARDT, one of the most distinguished lovers of Orchids in Russia.



DENDROBIUM PHALAENOPSIS FITZGERALD

P. De Pannemacker chrom.

PL. CCLXXX.

DENDROBIUM PHALAENOPSIS FITZGERALD.

THE MOTH-LIKE DENDROBIUM.

ETYMOLOGY : *Δένδρον*, a tree, and *βίος*, life, in allusion to their epiphytic habit.

DENDROBIUM. Sepala membranacea, patentia vel erecta, lateralia obliqua cum pede columnae connata, mentum formantia. Petala sepalis saepe latiora, interdum angustiora et longiora. Labellum ad pede columnae sessile, integrum vel interdum trilobum, saepe ecallosum. Columna brevis, semiteres, basi in pede productum. Anthera bilocularis ; pollinia per paria collateralia.

Herbae epiphyticae, caulescentes vel rhizomate repente, pseudobulbiferae, foliis distichis, floribus fasciculatis vel racemosis, saepius majusculis speciosis.

Species notae circa 300, per regionem Indo-Australianam late dispersae, a Zeylania et India borealis usque ad Japoniam, Novam Zelandiam et insulas maris Pacifici australis extensae.

Dendrobium, Sw., in *Kongl. Vet. Acad. Stockh.*, XXI (1800), p. 244. — Benth. et Hook. f. *Gen. Plant.*, III, p. 498.

Dendrobium Phalaenopsis. Caulibus elongatis fasciculatis subcylindraceis sulcatis vaginis appressis pallidis tectis, foliis lanceolatis acuminatis luride viridibus, racemis axillaribus pedalis laxe 6-10 floris, sepalis ovato-lanceolatis acuminatis pallidis nervis reticulatis, petalis sepalis multo majoribus patentibus rhombeo-rotundatis acutis basi contractis roseis venosis, labelli sanguineo-purpurei, lobis lateralibus rotundatis incurvis, intermedio lingueformi oblongo apiculato, basin versus 5-7 carinato, carinis rugulosis, calcare recto obtuso, basi inferne in sacculum subhemisphaericum dilatato, columna brevi ima basi bicallosa.

Dendrobium Phalaenopsis Fitzgerald, in *Gard. Chron.*, 1880, pars 2, p. 38. — Id., *Austral. Orch.*, vol. I, pars 7, t. 5. — *Bot. Mag.*, t. 6817. — Warn. et Will., *Orchid Album*, IV, t. 187. — *Gard. Chron.*, 1886, pars 2, p. 556, fig. 110. — Veitch *Man. Orch. Pl.*, pars 3, p. 68, cum fig.

D. Phalaenopsis var. Statterianum Sander, in Reichenbachia, ser. 2, vol. I, p. 15, t. 7.

This magnificent species was originally discovered by Captain Broomfield, of Balmain, near Cooktown, in North Queensland, and flowered in that gentleman's greenhouse during April 1880, in which year it was described by Fitzgerald, in the pages of the *Gardeners' Chronicle*. It was afterwards figured in the same author's *Australian Orchids*, the plant being recorded to have produced as many as 300 flowers. It must have been a splendid sight. Since then it has been found in some small islands of New Guinea, in Torres Straits, and even in the island of Timor, so that the species appears to be somewhat widely diffused. The plant figured in the *Botanical Magazine* was sent by Mr. H. O. Forbes, from Timor laut, and there are also dried specimens from the same locality in the Kew Herbarium, collected by Riedel. In each case the plants were found growing in the neighbourhood of the sea-coast, from which we may infer that, like the species of Phalaenopsis, plenty of heat and moisture are essential for its successful cultivation.

It should be grown in baskets of rough fibrous peat and sphagnum moss, and suspended near the glass in the warm house, receiving as much light

as possible, and very little shade except during the hottest part of the day, when it should be protected from the scorching heat. During the growing season it should receive a plentiful supply of water, but in winter, when the plant is at rest, sufficient only should be given to keep the pseudobulbs plump. It has been observed to succeed best where there is an abundant supply of atmospheric moisture during the growing season. Under these conditions the plant is said to be not at all difficult to cultivate successfully.

It belongs to a small group of rather closely allied species, all of which are natives of Northern Queensland, New Guinea, or the small adjacent islands. Of these may be mentioned *D. bigibbum* Lindl., *D. superbiens* Rchb. f., *D. Goldiei* Rchb. f., *D. Sumneri* F. Muell., *D. dicuphum* F. Muell., and *D. leucolophotum* Rchb. f. The last-named species has white flowers, while the two preceding ones are not in cultivation, and have much smaller flowers than *D. Phalaenopsis*, so that none of them can possibly be confounded with it. *D. Goldiei* is very near *D. superbiens*, and I am not sure if botanically it is more than a fine, richly-coloured variety of it; but at all events, both may readily be distinguished by their longer racemes of more numerous flowers, and other differences. *D. bigibbum* is the species most nearly allied to *D. Phalaenopsis*, but may readily be distinguished by its smaller, more uniformly coloured flowers, shorter crested lip, and other differences.

Our present species is the best of the group, its large richly-coloured flowers being very effective. They bear some little general resemblance to the genus Phalaenopsis, whence the specific name has been derived. The sepals are ovate-lanceolate and acuminate, very pale pink, with darker reticulations. The petals are much larger, rhomboid-orbicular, acute, contracted below, and rose-purple in colour. The lip is crimson-purple, deeper in the throat; the lateral lobes are incurved and meet above, the front one triangular-oblong, acute, and with five to seven obscure keels on the disc. The apex of the spur is narrow and straight, the basal part being expanded underneath into a small nearly hemispherical sac. The column has two white calli at the base.

R. A. Rolfe.

English Edition PART. V. June 1891.

LINDENIA

ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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CYPRIPEDIUM STONEI HOOK.

A. Goossens pinx. *G. Severeyns chrom.*

PL. CCLXXXI.

CYPRIPEDIUM STONEI HOOK.

Mr STONE'S CYPRIPEDIUM.

CYPRIPEDIUM. *Vide supra,* p. 31.

C. Stonei Low ex Hook. *Bot. Mag.,* t. 5349. — *Flore des Serres,* t. 1792-3. — *Ill. Hort.,* X, t. 355. — Warn. et Will. *Orchid Album,* I, t. 8.

ypripedium Stonei made its first appearance in 1860, in an importation received by Messrs Hugh Low et C°, from Sarawak, in the Island of Borneo. According to the *Flore des Serres* of the regretted Van Houtte, this firm of horticulturists found it growing together with *C. Lowii*, which they received for many years from the same region; yet the breadth of the leaves and the different habit served to attract their attention among the little batch of newly imported plants, and the following year revealed an incomparable treasure. It was in 1861 in the collection of Mr John Day, of Tottenham, that it actually flowered for the first time in Europe, but as this gentleman's name was already represented in the genus by another species, in the person of *Cypripedium Dayanum*, it was in honour of his gardener, Mr Stone, that the plant which has acquired so great a celebrity was named.

For many years it continued rare in cultivation, but through later importations it ultimately became more abundant. Nevertheless strong examples of *C. Stonei*, even at the present day, are few in number.

The circumstance which served to augment the high favour with which the new species was received, was the appearance, a few years later, of a variety distinctly superior to the type, the variety *platytoenium*, which, notwithstanding its extreme rarity, promptly acquired the name of the " King of Cypripediums. " This variety, imported under the same conditions and from the same locality as the original plants, was also acquired by Mr Day. It flowered for the first time in 1867. Some rare examples were obtained by division, and passed into the collections of the principle amateurs of this epoch. The two strongest preserved by Mr Day were, at his death, included in the sale of his collection, and acquired by two celebrated English amateurs, Sir Trevor Lawrence and Baron Schröder. No other plant has ever been imported.

There exist, however, other beautiful varieties of *C. Stonei;* among them we may mention the one which we have had painted for the *Lindenia*, and which is well known to all the continental Orchid growers under the name of *C. Stonei Cannartae*. It belonged to the collection formed with so much taste and devotion

by the late Senator DE CANNART D'HAMALE, of Malines, and which was for the most part disposed of at a sale at which all the connoisseurs of Orchids were present.

Cypripedium Stonei is particularly distinguished by the form and colour of the two sepals, broad, oblong, acuminate, white, with two, three, or four parallel, rather broad nerves, of a dark reddish-brown, and lightly tinted with reddish-purple on the posterior face. The ribbon-like petals, of a remarkable length, are yellow, tinted with brown at the extremity, veined with some fine brown lines throughout, and spotted also with reddish-brown. The rather large, prominent, nearly horizontal lip is quite sac-shaped, of a rosy tint, reticulated and shaded with grayish, which is very pleasing to the eye. The large staminode, in the form of a fleshy oval disc, is yellowish-white, ornamented on the two sides with a pubescence of yellow hairs, which are coloured with brown at their summit.

The variety *platytoenium* is considered by some authors as a natural hybrid, still a peculiarity observed some years ago on Baron SCHRÖDER's plant seems to prove that it is only a variation of *C. Stonei*. In 1887, this plant produced a flower having one petal narrow as in ordinary *C. Stonei*, and the other twice as broad, as in the variety *platytoenium*. It appears therefore that the two represent but one and the same species, because, as was remarked by Mr N. E. BROWN in announcing this anomaly in the *Gardener's Chronicle*, the breadth of the petals is the only difference which exists between *C. Stonei* and the variety *platytoenium*.

It may be remembered that in the plebescite of the genus Cypripedium, opened last year by the *Journal des Orchidées*, the majority of the voters, comprising the principal amateurs of Orchids of the globe, have given the preference to *C. Stonei*, in its beautiful varieties, and particularly the variety *platytoenium*. It is therefore decidedly the *premier Cypripedium* which we have the pleasure to submit to day to our readers, and it only remains for us to express the desire that this magnificent species should be diffused in greater numbers in cultivation, to enrich the houses of the majority of amateurs of this beautiful genus.

LAELIA PURPURATA LINDL.

A. Goossens pinx. *G. Severeyns chrom.*

PL. CCLXXXII.

LAELIA PURPURATA LINDL.

THE PURPLE-STAINED LAELIA.

LAELIA. Perigonii foliola explanata; exteriora lanceolata, aequalia; interiora saepissime majora. Labellum subintegrum v. trilobum, lobi laterales lati, columnam involventes. Columna longiuscula, clavata. Pollinia compressa, in quoque loculo 4, appendicula granulosa lineari connexa.

Laelia LINDL. *Gen. et Sp. Orch. Pl.* 1831, p. 115. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 533.

Laelia purpurata. Pseudobulbis fusiformibus subcompressis monophyllis, foliis ligulato-oblongis, pedunculo triseptemfloro, flore maximo expanso membranaceo, sepalis oblongo-lanceolatis acutis, petalis paullo latioribus, labello maximo rotundato undulato emarginato obscure trilobo, columna clavata sub-triquetra.

Laelia purpurata LINDL. in PAXT. *Fl. Gard.*, III, (1852-1853) pp. 111, 112, t. 96. — *Pescatorea*, t. 37. — *Ill. Hort.*, III, t. 83. — *Flore des Serres*, t. 1183. — WARN. *Sel. Orch.* ser. 1, t. 40. — *Gen. Orch.*, t. 22. — *Gard. Chron.*, 1883, pt. 2, pp. 530, 533, cum fig. — VEITCH *Man. Orch. Pl.*, pt. 2, p. 80, cum fig. — *Revue Hort. Belge*, 1888, p. 201, cum tab.

Cattleya Brysiana LEM., *Jard. Fleur.*, III (1852) t. 275.

Bletia purpurata RCHB. F. in *Walp. Ann.*, VI, p. 423.

Laelia Casperiana RCHB. F. in *Koch, Wochenschrift*, II (1859) p. 336.

L. Wyattiana RCHB. F. in *Gard. Chron.*, 1883, pt. 2, p. 426.

alf a century ago, this magnificent Laelia was absolutely unknown in Europe, though at the present time few Orchids are more widely cultivated or popular, and the title " Queen of Orchids " which has been applied to it, is by no means undeserved. It was in the year 1846 that FRANÇOIS DEVOS first met with the species, growing on trees in the district of Santa Catharina, in Southern Brazil. During the following year he sent plants to the horticultural establishment of M. AMBROSE VERSCHAFFELT, at Ghent, one of which was afterwards acquired by Messrs JAMES BACKHOUSE and Sons, of York. This plant flowered during the summer of 1852, when it was exhibited at a Garden Meeting of the Horticultural Society, as a new Cattleya, and produced quite a sensation. Dr LINDLEY, in describing it, immediately afterwards, as *Laelia purpurata*, spoke of it as one of the most striking novelties which had for a long time been seen. Shortly afterwards it was independently described by LEMAIRE, as *Cattleya Brysiana*, from a plant which flowered in the collection of M. BRYS, of Bornhem, near Antwerp, and which is said to have been received in 1850, also from the district of Santa Catharina. It may here be noted that the *Laelia Brysiana* described soon afterwards by LEMAIRE is quite a different plant, being one of the forms of *L. elegans*. The two have sometimes been confounded. There are two Laelias described by REICHENBACH which I am also unable to distinguish from *L. purpurata*, namely *L. Casperiana*, and *L. Wyattiana*. The former is said to be allied to *L. purpurata* and *L. crispa*, and the latter

a natural hybrid between *L. crispa* and *L. Boothiana*. The former seems to have been quite lost sight of, but from a tracing preserved in Dr Lindley's Herbarium it appears to be only a somewhat abnormal form of the present species. Of the latter I have seen a flower from the type plant, and am quite satisfied that it also belongs here.

Among the multitude of plants which have at different times been imported, several very handsome varieties have appeared, which have received distinctive names. We may proceed to enumerate the principal of these varieties, together with their essential characters.

The typical form of *Laelia purpurata*, the one originally described by Lindley, and which is far more common than any other, has the sepals and petals pure white, the expanded part of the lip of a rich deep purple shade, veined with maroon purple, the margin and especially the apex somewhat paler, and the disc pale yellow, with numerous purple veins. Variations from this type occur chiefly in two directions, a suffusion of rosy-purple in the sepals and petals, and the greater or less development of purple in the lip, but these variations also occur in various degrees of combination. With regard to the sepals and petals, the following variations occur. They may be pale blush or nearly pure white with light rosy-lilac veins, as in the varieties *Aurorea*, *Mr Brooman White's* variety, *Nelisii* and *Williamsi;* or of a somewhat deeper shade of rose, as in *Blenheimensis* and *rosea;* or rose-purple, as in *atropurpurea*, *Lowiana*, and *Whiteana*. With regard to the lip, the following may be noted. A decided area at the apex may be nearly pure white, as in the varieties *praetexta* and *Whiteana*, and to a less extent in *Blenheimensis;* or the white may extend over the greater part of the front lobe and the margins of the side lobes, as in *Schroederiana*. Or the purple veinings confined to the region near the disc in this variety may extend almost to the apex, being light purple in colour, and on a very pale ground, as in *Russelliana*, or still paler as in *alba* and *pallida*. The yellow of the lip may be changed to orange, as in *Mr Brooman White's* variety; or almost obliterated by a purple suffusion, as in *Whiteana* and *Lowiana*. Between these forms, however, all kinds of intermediates occur, and from the very nature of the case it will be understood that they cannot be separated by any very sharp dividing line. In some cases they may be considered as individuals rather than varieties in the true sense, especially where a stock has been raised by the repeated subdivision of one original clump.

R. A. Rolfe.

(To be continued).

LAELIA PURPURATA LINDL. var. ALBA VEITCH

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXXIII.

LAELIA PURPURATA LINDL. var. ALBA VEITCH.

THE WHITE VARIETY OF LAELIA PURPURATA.

LAELIA. *Vide supra,* p. 39.
Laelia purpurata. Vide supra, p. 39.
Var. alba. Sepalis petalisque albis, labello albo venis pallide roseis, disco pallidissime luteo.
Var. alba VEITCH, *Gard. Chron.*, 1869, p. 561.
Laelia Schroederi delicata O'BRIEN in *Gard. Chron.*, 1890, pt. 2, p. 451.

aelia purpurata alba is an exceedingly beautiful variety, almost an albino, which originally appeared with Messrs JAMES VEITCH & Sons, of Chelsea, in 1869, when it was exhibited by them at a Meeting of the Royal Horticultural Society, on May 18th. of that year. Its peculiar character lies in the nearly white lip which is veined and slightly suffused with pale rose outside the throat and on the disc, the yellow of this latter part being very much reduced.

A similar form appeared with Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Léopold, Brussels, during last year, whose beauty may be seen from the annexed portrait. It approaches the variety *Schroederi*, but both the rosy veins and the yellow of the throat are of a lighter tint, whence it received the name of *Laelia Schroederi delicata*, from Mr J. O'BRIEN.

The plant to which the name *L. Schroederi* was originally applied was thought to be a new species, allied to *L. grandis*, and a native of Bahia; and afterwards, a natural hybrid between *L. purpurata* and some other species, probably *L. xanthina;* but like *L. Wyattiana*, a supposed natural hybrid between *L. purpurata* and *L. crispa*, it has since proved to be simply a variety of *L. purpurata*. Besides the absence of any actual characters which point to *L. xanthina* as one parent, there is the further difficulty that the two species grow a great distance apart, the one at the extreme north, the other at the south of the Brazilian Cattleya and Laelia coast region. *L. crispa* and *L. purpurata* also grow at a considerable distance apart, for which reason natural hybrids between them must not be expected to occur.

Returning to our present plant, it should be pointed out that the name *alba* is often wrongly applied, in gardens, to a plant with white segments, but with the lip quite normal in character — in fact to what is really the typical form of the species. The beautiful form here figured is perhaps the nearest approach to an albino of *L. purpurata* which has yet appeared. R. A. ROLFE.

THE EXHIBITION OF THE "ORCHIDÉENNE," OF BRUSSELS.

The society "L'Orchidéenne," of Brussels, organised, on May 17 th. last, on the occasion of its twenty-eighth Meeting, a special assemblage of Cattleyas and Odontoglossums, for amateurs only, together with an exhibition open to the public for three consecutive days.

It was held, as usual, in the extensive conservatories and winter gardens of L'Horticulture Internationale, rue Wiertz, and with such notable success as to constitute an epoch in the annals of horticulture.

Splendid collections were sent by numerous amateurs, particularly Mssrs G. Warocqué, Miteau, Martin-Cahuzac, J. de Lansberge, A. van Imschoot, Dr. van Cauwelaert, Baron de Bleichröder, etc. The magnificent specimens of *Cattleya Mossiae*, *C. Mendeli*, *Laelia purpurata*, *Odontoglossum vexillarium*, covered with flowers extremely varied in colour, *O. crispum* of numerous valuable and rare varieties, *O. Pescatorei*, etc., etc.

The Royal Family of Belgium again showed their lively interest in horticulture by coming to assist in one of its most brilliant festivals. The King and Queen paid a long visit to the Exhibition on the opening day. They were introduced to several members of L'Orchidéenne, also to M. G. Gordon, Editor of the *Gardeners' Magazine*, who had consented to take part that morning in the work of the Jury. They looked through all the houses, under the guidance of Mssrs J. Linden and Lucien Linden, deputy-administrator and director of L'Horticulture Internationale, and expressed, on retiring, their lively satisfaction.

Their Royal Highnesses the Count and Countess of Flanders, accompanied by the two young princesses, their daughters, and the Princess of Hohenzollern, on the morning Tuesday, May 19 th., visited the establishment, which they inspected in detail, and expressed to Mssrs Linden their warm congratulations on the progress and magnificent results obtained under their direction.

The success of this fine exhibition was so great that, at the request of a large number of amateurs, the committee of L'Orchidéenne have decided to organise, during May 1892, a grand international exhibition of Orchids, comprising a numerous assemblage of all the genera, the programme to be arranged at the end of this year. This is, assuredly, a very interesting departure, and the more profitable, and favoured by its energetic stimulus we may foresee that horticulture, and particularly the cultivation of Orchids, will make giant strides in the path of progress.

ZYGOPETALUM GAUTIERI LEM.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCLXXXIV.

ZYGOPETALUM GAUTIERI LEM.

M. GAUTIER'S ZYGOPETALUM.

ZYGOPETALUM. *Vide supra,* p. 27.
Zygopetalum maxillarium var. Gautieri REGEL.
Z. Gautieri LEM. *Ill. Hort.,* XIV, t. 535. — WARN. & WILL. *Orchid. Album,* I, t. 28.
Gartenflora, XIX, p. 67, t. 644.

ygopetalum Gautieri possesses a remarkable individuality in the family of Orchids, because it presents an almost unique example of a dark blue coloration. From the point of view of colour the genus *Zygopetalum* is endowed with a somewhat exceptional character, because this colour, so rare in the Vegetable kingdom, here appears, more or less abundantly, in many species: *Z. Mackayi*, *Z. crinitum*, *Z. intermedium*, *Z. brachypetalum* and *Z. maxillare* for example. Rose is also rare, as we have quite recently observed, but may be seen in *Zygopetalum Lindeniae*.

In the species of which we publish to-day the representation, the blue coloration, slightly indicated in the others, attains a remarkable intensity; the lip, as well as the column, and particularly the fleshy crest, are of a lively and beautiful indigo-blue, which harmonises admirably with the large sombre brown blotches with which the segments are almost entirely covered. This colour, moreover, varies from pale to dark in the different varieties.

Zygopetalum Gautieri, like most of its congeners, lends itself admirably to the decoration of the conservatory. It succeeds perfectly when cultivated on the stem of a fern, around which it clasps its climbing rhizome; the somewhat distant pseudobulbs, the dwarf habit, and the slender leaves of a pleasing clear green, contrast themselves admirably with the sombre background.

This is, moreover, one of the most attractive ways of arranging Orchids in the greenhouse of an amateur, which should be disposed with the view of pleasing the eye, by placing them upon the branches or trunks of trees, by concealing as much as possible the somewhat ungraceful flower-pots, by arranging them at different elevations, and, in short, breaking up, as much as possible, the monotony of parallel lines of pots and bulbs.

We doubt not that in accordance with this view the future will introduce in our actual routine many modifications, from which we expect much good. At present we are far from having obtained all that is possible from Orchids from a decorative point of view; when amateurs shall have learned to group them

among palms, ferns, and the large ornamental-leaved plants, to form a winter-garden of Orchids, as described very precisely by M. Bungeroth in the *Journal des Orchidées* a short time ago, they will be astonished at the use which may be made of these admirable plants for lightening up and relieving the rich foliation of these giants of the tropics.

This progress ought, in our opinion, to be the more rapidly accomplished because it is favourable to the good cultivation of certain genera. From the observations of M. Bungeroth, cited in the article which we have mentioned above, it appears that certain genera, and particularly Cattleya, grow in preference upon certain trees, whose bark appears to be specially favourable to their vegetation.

To return to *Zygopetalum Gautieri*, this beautiful species comes from the province of Santa Catherina, Brazil, whence it was sent to M. Ambrose Verschaffelt, by M. Gautier, to whom it was dedicated. It flowered for the first time in Europe in 1867. Since then, it has become widely diffused in cultivation, where its elegance has been very warmly appreciated.

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CYPRIPEDIUM × ENGELHARDTAE L. LIND.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXXV.

CYPRIPEDIUM × ENGELHARDTAE L. LIND.

MADAME D'ENGELHARDT'S CYPRIPEDIUM.

CYPRIPEDIUM. Vide *supra*, p. 31.

Cypripedium × *Engelhardtae*. Hybridum novum *C. insignis* varietate quadam, verisimiliter *C. insigni Maulei*, et *C. Spiceriano*, arte productum.

Cypripedium Engelhardtae L. LIND., *supra*, p. 35.

We announced recently to the readers of the *Lindenia* the appearance of this new hybrid, and we are happy to be able to give them to-day the reproduction, because we doubt not that they will share the opinion of those amateurs who had the opportunity of seeing it in flower in the month of May, and who have deemed it worthy to be placed in the front rank of this genus.

That which gives a particular interest to the subject of hybridisation in the family of Orchids, the importance of which is not yet sufficiently recognised, is that the differences in the varieties employed as parents reproduces itself to a considerable extent in the offspring, creating very different forms conformably to the varieties chosen. This peculiarity promises to furnish an infinite variety among the hybrids, and particularly those of the genus Cypripedium, in which the varieties are so numerous that the Monograph recently published by M. ANGIOLO PUCCI, of Florence, enumerates up to seventy for a single species, namely *C. insigne*. It is precisely from this species that *C.* × *Engelhardtae* has arisen, and the variety which has served as the seed parent is very probably the variety *Maulei*. The other parent is one of the best known and most appreciated species of the genus, *C. Spicerianum*. This new hybrid is the third issue from this excellent cross, which has already produced *C.* × *Leeanum* and *C.* × *Leeanum var. superbum*.

The character which clearly separates it from the other forms in the group, and which gives it a particular charm, is the brilliant golden yellow colour which covers the petals and the lip, and gives to the flower an exceptional splendour. The large dorsal sepal, which is reflexed at the base, as in *C. Spicerianum*, is finely speckled with violet-purple, and traversed from base to summit by a median band of the same colour; it bears at its base an extensive area of clear green. The rest of the flower recalls rather *C. insigne Maulei*, except the colour, which is unique.

C. × *Engelhardtae*, like the majority of hybrids, is very robust and floriferous. We may also add that the flowers attain a superior size to the average of those in the Leeanum group.

We have dedicated this remarkable novelty to Madame CONSTANTIN D'ENGELHARDT, the wife of one of the principal amateurs of Orchids in Russia.

VARIETIES OF LAELIA PURPURATA.

Under an anterior plate (282) the principal variations to which *Laelia purpurata* is subject were mentioned, and we may now proceed to enumerate the varieties which have been described or figured, with their characters, and references to the works in which they appeared.

VAR. ALBA, *Gard. Chron.*, 1869, p. 561; *Lindenia*, t. 283. — Sepals and petals pure white, lip faintly tinted and veined with pale rose.

VAR. ATROPURPUREA Williams, *Orch. Gr. Man.*, ed. 6, p. 636. — Sepals and petals deep rose colour, lip magenta-purple, the throat orange, veined with dark purple.

VAR. AUROREA Rchb. f. in *Bonplandia*, IV, p. 328; *Bull. soc. Tosc. di Ortic.*, XI, p. 297, t. 12. *Bletia purpurata var. Aurorea*, Rchb. f., *Xen. Orch.*, II, p. 53. — Sepals and petals pale lilac-blush, slightly veined with rosy-lilac, lip nearly normal.

VAR. BLENHEIMENSIS Williams, *Orchid Album*, VIII, t. 346. — Sepals blush-rose, streaked with rose-purple, petals rose-purple, lip with a small white area at apex.

VAR. LOWIANA Rchb. f., in *Gard. Chron.*, 1888, pt. I, p. 799. — Sepals and petals rose-coloured, lip of the darkest blackest mauve-purple, with very little yellow on the disc.

VAR. " BROOMAN WHITE'S VARIETY " Rchb. f. in *Gard. Chron.*, 1888, pt. I, p. 681. — Disc of lip orange instead of yellow, sepals and petals narrower than in the variety *Williamsii*, which it otherwise much resembles.

VAR. NELISII Verschaffelt in *Ill. Hort.*, XV, t. 569; *Gard. Chron.*, 1869, p. 136. — This is figured with the sepals blush-white in front, but rose-coloured behind, the petals white with a rose-coloured mid-nerve, and the lip normal in character.

VAR. PALLIDA Rchb. f. *Xen. Orch.*, II, p. 53 (in note). *Bletia purpurata var. pallida*, Rchb. f., *l. c.* — Sepals and petals white, lip very pale.

VAR. PRAETEXTA Rchb. f. in *Otto et Dietr. Allg. Gartenz.*, XXIII, p. 241; *id.*, *Xen. Orch.*, I, p. 175, t. 61. *Bletia purpurata var. praetexta* Rchb. f. in *Walp. Ann.*, VI, p. 431. — Differs from the type in having a clear white area at the apex of the lip.

VAR. ROSEA Regel, *Gartenflora*, XXI, p. 225, t. 730. — Sepals and petals light rose, with somewhat darker nerves. Lip as in type.

VAR. RUSSELLIANA Williams *Orchid Album*, VI, t. 269. *L. Russelliana* Williams, *Orch. Gr. Man.*, ed. 6, p. 366. — Sepals white suffused with lilac, petals a little darker and streaked with darker lines towards apex, lip rosy-lilac with rosy-purple veins and paler margin.

(*To be continued on p.* 50.)

ODONTOGLOSSUM BERGMANI L. LIND.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCLXXXVI.

ODONTOGLOSSUM BERGMANI L. LIND.

M. F. BERGMAN'S ODONTOGLOSSUM.

ODONTOGLOSSUM. Vide *supra*, p. 19.

Odontoglossum Bergmani. Flores maximi segmentis latissimis fusiformibus leviter fimbriatis albis badio maculatis. *Odontoglossi luteo-purpurei* forma forsitan alba?

Odontoglossum Bergmani L. LIND., supra.

dontoglossum Bergmani was exhibited for the first time at the twenty-seventh meeting of the ORCHIDÉENNE, of Brussels, on the 12 th. of April 1891, when it was unanimously awarded a First-class Certificate of Merit. It was exhibited by M. F. BERGMAN, Superintendent of Culture of the estate of Ferrières-en-Brie, near Paris, well known to all horticulturists for the splendid results which he has obtained in this superb estate, and was dedicated to him during the meeting as a souvenir of the glorious reunion at which M. BERGMAN was present, and the great success obtained by the remarkable Orchid which he exhibited.

O. Bergmani is, indeed, a form of the first rank. It belongs to a vast group which it is agreed to call natural hybrids, but it deserves a place apart in the group by reason of the grandeur and the elegant colour of its flowers. The plant exhibited at Brussels bore two inflorescences, of large size, carrying sixteen flowers, which measured not less than four inches in diameter. The segments, very broad, distinctly fusiform, and lightly fringed on the margins, were of a beautiful white colour with some large spots of clear chocolate-brown.

In habit *O. Bergmani* is very near *O. luteo-purpureum*, of which it has nearly the leaves, and we think that perhaps it may be considered as a white form of this very variable species. It has very large and very strong pseudobulbs, and is in appearance one of the giants of the group.

Its culture is not sensibly different from other Orchids of the section. It succeeds perfectly, as we have already pointed out, cultivated in the cool house in a mixture of nearly equal parts of fibrous peat and sphagnum. The atmosphere of the house should be very cool and moist; in summer care should be taken to give all the air possible, and to keep down the temperature by frequent sprinklings, not only of the pots, but also of the tables and paths.

Growth is very active from February to December, and diminishes during the coldest of the winter months, but without a decided period of rest, as in most other genera. It should, however, be possible, as indicated in the *Journal des*

Orchidées, to change the epoch of this diminution of activity, and to make the Odontoglossums rest in the middle of summer. The plants indeed accommodate themselves better to the cold of winter, during which it is scarcely necessary to warm their houses to keep the frost out, than to the excessive heat of July and August, against which it is difficult to protect them.

(Continued from page 48.)

VAR. SCHROEDERI Rchb. f. in *Gard. Chron.*, 1885, pt. I, p. 786. *Laelia Schroederi* T. Moore in *Williams Orchid Album.*, I, t. 2. — Flowers wholly white, except the yellow disc, and some rose-purple lines in front, which do not extend to the margin.

VAR. WHITEANA Rchb. f. in *Gard. Chron.*, 1888, pt. I, p. 681. — A very dark variety much like *Lowiana*, the lip without any yellow in the throat, but replaced by an undecided light purple with darker veins, and the apex white as in *praetexta*.

VAR. WILLIAMSII Hort., *Williams Orch. Gr. Man.*, ed. 4, p. 196; *Orchid Album*, I, tt. 9, 10. — A very large form, sepals and petals delicate pale rose with darker veins, lip with a pale yellow disc, and a white area veined with purple at the apex.

Two or three other varieties have received distinctive names, but as their distinctive characters are not recorded, I have omitted them here, besides which there may be some which I have overlooked. The foregoing, however, comprise a series from the lightest to the darkest forms, together with numerous intermediate ones.

The variety *Brysiana* (described in *Williams Orch. Gr. Man.*, ed. 6, p. 366), is a form of *L. elegans*, being based upon *Laelia Brysiana* of Lemaire, though the figure of the very different *Cattleya Brysiana* of Lemaire is also cited.

Laelia purpurata has participated in the parentage of several very beautiful hybrids, both in a wild state and under the care of the hybridists. In its native home it grows associated with *Cattleya guttata var. Leopoldii* and *C. intermedia*, with both of which it has been crossed. With the former it has yielded *Laelio-Cattleya elegans* and its numerous varieties, and with the latter *L.-C. Schilleriana* and its varieties. Crossed with different varieties of *Cattleya labiata* it has yielded the three beautiful *Laelio-Cattleyas* known as *bella*, *callistoglossa*, and *Canhamiana*, while with *L.-C. elegans* it has yielded *L.-C. Horniana*, a secondary hybrid, which has therefore three-fourths blood of *Laelia purpurata* in its parentage.

R. A. Rolfe.

AGANISIA IONOPTERA NICHOLSON

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCLXXXVII.

AGANISIA IONOPTERA NICHOLSON.

THE VIOLET-WINGED AGANISIA.

AGANISIA. Sepala aequalia, libera, patentia. Petalis sepalis subsimilia. Labellum ungue brevissimo columnae basi affixum, quacum articulatum; lobi laterales breves v. obsoleti, medius patens, latus rotundatus v. subquadratus, integer v. late 2-3 lobus; discus ad basin laminae late cristatus. Columna erecta, semiteres, basi non producta, apice utrinque lobo brevi obtuso v. longiore acutiusculo cum clinandrio caeterum integerrino continuo aucta. Anthera terminalis, opercularis, incumbens, dorso convexa v. breviter appendiculata, 1-locularis; pollinia 4, cerea, obovoidea v. oblonga, acutiuscula, per paria connata, inappendiculata; anthera dehiscente stipiti plano oblongo v. lineari affixa; glandula parva.

Herbae terrestres v. epiphyticae, caulibus foliatis brevibus demum in pseudobulbos incrassatis. Folia pauca, saepe solitaria, plicato-venosa, linearia v. latiuscula, in petiolum contracta. Scapi ad basin pseudobulborum v. e rhizomate erecti, aphylli, paucivaginati, saepe tenues. Racemus simplex, laxus, floribus mediocribus breviter pedicellatis. Bracteae parvae.

Species circa 10, Americae tropicae incolae.

Aganisia LINDL. *Bot. Reg.*, XXV (1839), *Misc.*, p. 46. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 544.

Aganisia ionoptera. Caules foliati basi vaginis nonnullis, sursum monophylli folio cuneato oblongo ligulato acuto sque ultra pedali. Pedunculus basilaris ultra pedalis vaginis paucis distantibus apice racemosus; bracteae triangulae ovariis pedicellatis bene breviores; sepala oblonga subacuta, lateralia subfalcata; petala oblonga acuta; labellum sessile panduratum, lobi laterales oblongi, lobus anticus emarginatus transversus; callus carnosus retusus bilobus inter sinus isthmi; columna utrinque retuso brachiata juxta androclinium.

Aganisia ionoptera NICHOLSON, *Dict. of Gard.*, I (1885), p. 35.

Koellensteinia ionoptera LINDEN et RCHB. F. in *Gard. Chron.*, 1871, p. 1451.

In the present species we have another of those interesting Orchids in which some shade of blue is represented in the flower, though, as usual, it is only a modification of that colour, a sort of purple-blue, which is represented. The species appears to be rather rare in cultivation, if, indeed, it has not been quite lost sight of for some years. It was originally described, in 1871, as *Koellensteinia ionoptera*, but that genus having proved identical with *Aganisia*, it was found necessary to change the name as above. It is said to have been originally sent from Peru, by Wallis, to Messrs LINDEN, and the plant now figured is believed to be identical. It agrees well with the original description, though I have only seen specimens from a recent importation, not from the original one, and therefore have not been able to compare them together.

It is allied to *Aganisia Kellneriana*, BENTH., the type of REICHENBACH's genus *Koellensteinia*, which, however, according to a figure in the *Xenia Orchidacea* (t. 24), has green segments *, besides other differences, and therefore is less

* Since the above was written, a plant has flowered in the Kew collections which quite agrees with this figure. It was sent from New Granada, by PATIN, without a name. R. A. R.

attractive than the one here represented, whose characters may be described as follows : —

The pseudobulbs are ovoid-oblong, from 1 to 1 $\frac{1}{4}$ inches long, and bear a single lanceolate acute plicate leaf, of 7 to 10 inches in length. At the apex of the green pseudobulb is a dark brown ring, just below where the leaf joins it. The scapes, which are borne from the base of the pseudobulbs, are from 1 to 1 $\frac{1}{2}$ feet high, bear from about nine to thirteen flowers, which measure 1 $\frac{3}{4}$ inches across their broadest diameter. The sepals are white, tinged with light purple-blue, more especially on the lateral ones, while the petals are of a bright purple-blue. The broadly pandurate lip is a third of an inch in diameter with a white ground. The roundish-oblong obtuse side lobes are radiately lined with purple, while the broad front lobe has three transverse purple-blue lines. The erect fleshy slightly bilobed crest is white with a few light purple spots, while the foot of the column, sometimes said to be absent, but which is here distinctly developed, is of a deep purple-blue colour. It is a very attractive little plant.

R. A. Rolfe.

PHALAENOPSIS SPECIOSA RCHB. F.

A. Goossens pinx.

P. De Pannemacker chrom.

PL. CCLXXXVIII.

PHALAENOPSIS SPECIOSA RCHB. F.

THE FINE PHALAENOPSIS.

PHALAENOPSIS. Vide *supra,* p. 21.

Phalaenopsis speciosa. E grege *P. Luddemannianae;* labelli lacinia antica carnosa prope ancipiti, apice cum pulvinar filorum; laciniis lateralibus ligulatis retusis, extus pauci-dentatis, dente supremo maximo, callo in disco antrorsum progrediente aristulis geminis quadrigeminis; pari minori superiori; columnae androclinio denticulato. Planta speciosa. Folia cuneato-oblonga obtuse acuta. Panicula seu racemus. Flores stellati pulchri extus aquose alborosei seriebus macularum purpurearum, intus purpureus fasciis paucis albis in tepalorum basi. Labelli laciniae laterales medio flavae, apice et basi albae. Lacinia antica alba et purpurea; seu prope omnis purpurea. Ex Asia tropica. Misit cl. Bull.

Phalaenopsis speciosa RCHB. F. in *Gard. Chron.,* 1881, I, p. 562; ID., 1882, II, p. 745, fig. 130-2; WARN. & WILL. *Orchid Album,* IV, t. 158.

This is " the nearest ally of *Phalaenopsis Corningiana*, with large leaves " like those of *P. Lüddemanniana* and a panicle or raceme of fine stellate " flowers. Sepals and petals whitish rose outside with rows of purple " blotches, purple inside, with a few white bars at the base of the petals. Side " lacinia of the lip yellow, white at the top and base; middle lacinia white with " much purple or nearly purple, and with a tuft of hairs at apex. It is remarkable " that we have here once more an instance of the central blade of the lip becoming " ancipitous and fleshy, and this is the distinguishing character of this species " among its nearest allies. The column has a toothed anther-bed. The species " seems to be very remarkable. It is much praised for perfuming the air in a " delightful way. It is quite a new discovery. "

The plant now figured is thus described by Professor REICHENBACH fil. in *The Gardeners' Chronicle* of April 30th 1881; and the same author added, over a year later (December 9th 1882) the following : —

" This plant is very clearly distinct from *P. tetraspis*, although it is allied " to that plant in the same way that it bears a family resemblance to *P. Lüddemanniana*. An experienced eye can, however, see a considerable distinction, " even when out of flower, in the character of the leaves and the roots. The " leaves, in *P. tetraspis*, are of a very dark green, and are of considerable " thickness; in *P. speciosa* the leaves are much lighter in colour, having almost " a yellow tinge, and are of less substance, and the roots are less numerous and " rather flat. But when we come to the flowers, a great difference presents itself. " The plant is altogether more floriferous than *P. tetraspis;* the colour and " markings are beautiful, the common form of the flowers having large blotches " and streaks of rosy-purple (rose-madder) on a white ground, but scarcely any

" two plants are alike in their markings. Some flowers are much blotched with
" deep rosy-purple, showing very little white; others have bars of rosy-purple
" with some white spaces between. In rare specimens the surface is profusely
" covered with delicate streaks of light rose. "

This charming Phalaenopsis, a native of the Malay Archipelago, was introduced by General E. S. Berkeley, who on two occasions was successful in getting home some plants alive, by bringing them himself and watering them on the journey. On all occasions on which the plant was sent home before, it failed to reach England alive, and except when cared for on the road, it seems impossible to get it home successfully.

The plant we now figure in the *Lindenia* is from General Berkeley's collection, being one of those he brought home in 1882. This is the type, but there are many varieties, the most distinct being the variety *Imperatrix*, rosy purple without any shade of white, and *Christiana*, which has the sepals rosy purple and the petals white. (Sec *Gardeners' Chronicle*, Dec. 9th 1882.) There are many intermediate forms, but these are the most distinct.

Being found in islands, the plants are exposed to the sea breeze, and a rainfall practically continuous the whole year round, they grow with great luxuriance, and throw out long branching spikes, some of which General Berkeley found to measure six feet.

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English Edition PART. VII. August 1891.

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ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

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THE COLOURED PORTRAITS BY

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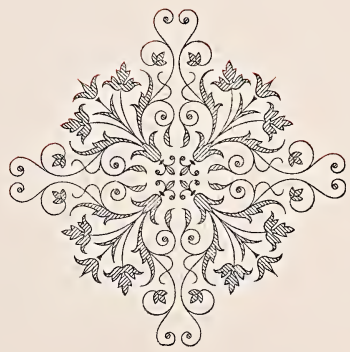

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PL. CCLXXXIX.

MORMODES ROLFEANUM L. LIND.

Mr R. A. ROLFE'S MORMODES.

MORMODES. Vide *Lindenia*, Engl. ed., vol. I, p. 23.

Mormodes Rolfeanum. Pseudobulbis fusiformi-oblongis, foliis lanceolatis acutis 37,5 cm. longis, scapo erecto paucifloro foliis longiore, floribus magnis, bracteis ovatis acutis, pedicellis 5 cm. longis, sepalis patentibus oblongo-lanceolatis acutis 4-4,5 cm. longis, petalis elliptico-oblongis acutis sepalis latioribus, labello valde carnoso rigido late elliptico apiculato basi late unguiculato 2,5 cm. lato, columna arcuata rostrata rigida 2,5 cm. longa.

Patria Peruvia.

Mormodes Rolfeanum L. LIND., *supra*.

This very distinct species has large flowers which cannot be exactly compared with any other, though it presents some resemblance to *Mormodes igneum* LINDL., which, however, has smaller and more numerous flowers, with a crimson-scarlet lip of a different shape. In dimensions, the flowers of *M. Rolfeanum* approach those of *M. luxatum* LINDL., but their colour and the shape of the lip are wholly different in this species. The sepals and petals are suffused light brown on a light green ground and with darker green stripes. The face of the very fleshy rigid lip is brownish-crimson in colour, also the back of the column, the front of this organ and the back of the lip being greenish-yellow.

M. Rolfeanum is the third new species which has made its appearance in the houses of L'HORTICULTURE INTERNATIONALE during less than a year, which fact is sufficiently curious to be worthy of mention. Our novelty has not such brilliant and lively colours as many of its congeners, but it is distinguished by its very large size, and bespeaks a place in the collections of those amateurs who do not sacrifice solely to the fashions of the hour. We may note that it exhales a penetrating perfume, closely resembling that of anise.

We have particular pleasure in dedicating this new species to our distinguished collaborator Mr. R. A. ROLFE, whose writings, already considerable, are known to all who are occupied with Orchids, both in England and on the Continent.

As regards culture, *M. Rolfeanum* is in no respect different from the rest of the genus. The species of Mormodes should be cultivated in the warm house, and require almost the same treatment as Catasetums. A sunny situation suits them best, nevertheless they should be shaded when the sun is too hot. After flowering, all the species loose their leaves, when the amount of water given

MAR 1 - 1902

AL VAN DER
HAGHEN.
FCO. KEM

MORMODES ROLFEANUM L. LIND.

A. Goossens pinx. P. De Pannemaeker chrom.

LAELIA GRANDIS LINDL. var. TENEBROSA HORT.

A. Goossens pinx. *P. De Pannemaeker chrom.*

should be considerably reduced for a period of several weeks, while the plants are in a state of semi-repose.

When the new growth appears, the amount of water should be gradually increased, in order to restore the plant to full activity.

L. L.

PL. CCXC.

LAELIA GRANDIS LINDL. var. TENEBROSA HORT.

THE LARGE LAELIA, DARK VARIETY.

LAELIA. Vide *Lindenia,* Engl. ed. I, p. 41.

Laelia grandis. Pseudobulbis clavatis compressis monophyllis, foliis lineari-oblongis obtusis coriaceis, spathis ancipitibus elongatis, pedunculis bene exsertis 3-5 floris, floribus magnis, sepalis oblongo-lanceolatis acutis undulatis subcontortis flavis, petalis multo latioribus acutis crispo-undulatis flavis, labello trilobo, lobis lateralibus circa columnam convolutis, lobo medio rotundo crispo-undulato, colore albo venis omnibus pulchre purpureis, columna brevi trigona.

Laelia grandis LINDL. in *Paxt. Fl. Gard.*, I (1850), p. 60, fig. 38. — *Flore des Serres,* VII, p. 238, cum fig. — RCHB. F. in *Allg. Gartenz.*, XXIII (1855), p. 321. — BATEM. in *Gard. Chron.,* 1864, p. 1202. — *Bot. Mag.*, t. 5553. — *Flore des Serres*, t. 2473. — *Gartenflora,* t. 698. — *Orchid Album,* III, t. 123.

Bletia grandis RCHB. F., in *Walp. Ann.,* VI, p. 424.

Var. tenebrosa. Sepalis petalisque cupreis, labello purpureo disco atropurpureo.

Var. tenebrosa HORT.

aelia grandis was originally introduced to European gardens in 1849, when it was sent from the neighbourhood of Bahia, by M. PINEL to his fellow countryman, M. MOREL, at Paris. It flowered during May of the following year, when a sketch of the plant and a single flower were sent by M. MOREL to Dr LINDLEY, who described it in *Paxton's Flower Garden*, under the name it now bears. A figure of the flower was also given, but it was evidently in a withered condition when drawn, for the segments are represented in a very unnatural position. LINDLEY describes the flowers as large, nankeen-yellow, with a white lip, washed with rose at base inside, veined with purple, and with a pure white border. He speaks of its affinity being with *L. Perrinii* and *L. majalis*, which is hardly correct, for *L. xanthina*, on the one hand, and *L. purpurata* on the other, are clearly its nearest neighbours. The latter though very different in colour has many points of resemblance, both in habit and structure.

In 1855 a plant flowered in the collection of Consul SCHILLER, of Hamburg, but the species remained extremely rare until 1864, when it was again introduced by Messrs HUGH LOW & Co, of Clapton, from Bahia. About the same time, some plants were sent by Mr. WILLIAMS from the same locality to the Royal Gardens, Kew, one of which flowered there in 1865, and was figured in the *Botanical Magazine*, this being the first coloured figure of the species published.

Until quite recently very little variation in the species has been observed, but now the very distinct variety figured in the accompanying plate has appeared, and is represented in several collections. My first acquaintance with it dates from May, 1889, when a flower from the collection of H. TATE, Esq., junr, of Allerton Beeches, near Liverpool, was sent by the Liverpool Horticultural Co.

About a year later Mr A. H. Grimsditch, of Clayton square, Liverpool, sent a flower with pseudobulb and leaf, saying it was discovered by his principal, Mr Travassos. And now it has appeared with Messrs Linden, L'Horticulture Internationale, Parc Leopold, Brussels. The same form (though not under this name) was also exhibited by Lord Rothschild, of Tring Park, and E. Gotto, Esq., of Hampstead, at a meeting of the Royal Horticultural Society on June 23 rd. last, the former of whom received a First-class Certificate for it.

It is certainly a most distinct and beautiful variety, agreeing well with the typical form in habit, but presenting a variety of differences in the flowers. The segments are flatter, less undulate, and of a decided copper-bronze tint, while the lip is wholly purple, somewhat lighter near the margin and darker in the throat; in some cases with a dark blotch on each side of the disc.

I believe there is somewhere in print a note about this particular variety, but have failed to find it.

It will doubtless succeed perfectly under similar treatment to *L. purpurata*, but, like the typical form of *L. grandis*, should be placed at the warmest end of the house, as it is said to prefer a little more heat, like *Cattleya superba*, *C. Aclandiae*, and *C. Schilleriana*.

R. A. Rolfe.

DENDROBIUM LEUCOLOPHOTUM RCHB. F.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCXCI.

DENDROBIUM LEUCOLOPHOTUM RCHB. F.

THE WHITE-CRESTED DENDROBIUM.

DENDROBIUM. Vide *Lindenia,* Engl. ed., vol. I, p. 37.

Dendrobium leucolophotum. Aff. *D. barbatulo* LINDL., caule valido cylindrato attenuato polyphyllo; foliis oblongo-ligulatis acuminatis membranaceis; racemo elongato laxifloro, mento acutangulo parvo; sepalis ligulatis acutis; petalis oblongis acutis; labello trifido, laciniis lateralibus triangulis extrorsum obtusatis, lacinia mediana porrecta ligulata acuta, parte superiore supra nervos lamellis minutis ramulosis asperula; columna minuta dorso apiculata.

Dendrobium leucolophotum RCHB. F. in *Gard. Chron.*, 1882, pars 2, p. 552; VEITCH *Man. Orch. Pl.*, pars 3, p. 53.

Dendrobium leucolophotum was originally described by REICHENBACH, in 1882, from specimens sent by Curtis from some part of the Malayan Archipelago to Messrs JAMES VEITCH & SONS, of Chelsea, during the previous year. The precise locality is said to be unknown. Prof. REICHENBACH speaks of it as follows : — " Very near *D. barbatulum* LINDL., but with a much stronger pseudobulb, a lax inflorescence exceeding a foot in length and much larger flowers of a fine white colour, apparently with yellowish buds. The acute chin is small, and the sepals ligulate acute, and far larger than the sepals. Lip trifid as in *D. cuspidatum* WALL., with triangular side laciniae rounded outside, and a linear ligulate acute long anterior lacinia. All the nerves of the superior half are covered with minute lobed lamellae, just as in *D. barbatulum*, whose conspicuous middle callus is absolutely unrepresented. "

The species appears to be extremely rare, but there is a raceme in the Kew Herbarium, received from Signor Commendatore H. J. Ross, of Florence, Italy.

And now it has been re-introduced, a raceme and the complete drawing of the plant having been forwarded by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, with the information that it came from Northern Queensland. It is quite identical with the plant mentioned above. As the precise locality of the original plant is unknown, it seems quite possible that it may have come from the far east, and if so, the two localities are not so far apart as they may at first appear to be. It should also be remembered that *D. Phalaenopsis* occurs in Queensland, New Guinea, and Timor-laut, and *D. leucolophotum* may occur over an equally wide area. We know so little of the distribution of Orchids in this interesting region !

Although the plant has been very well compared with *D. barbatulum*, there are some decided affinities with *D. Phalaenopsis*. The long scapes and the gibbous

projection underneath the spur, as well as the general shape of the flowers, are all characteristic of this group.

The application of the specific name is somewhat difficult to understand, and its author does not explain it. From his description it would appear to be in allusion to the minute white hairs upon the disc of the lip, which may be called the crest. It has been suggested as derived from λευκὸς (leucos), white, and λόφος (lophos)*, a tuft of long hairs, " as the mane of a horse ", and " evidently intended to refer to the long one-sided racemes of white flowers ", but I am inclined to think that λόφος here means " a crest ". In any case, the name is a somewhat fanciful one.

As regards cultivation, it will be found to succeed under the same treatment as is given to *D. Phalaenopsis*, *D. bigibbum* and *D. superbiens*, with or near some of which I suspect it grows in its native habitat.

R. A. Rolfe.

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* More correctly from the adjective λοφωτὸς, " tufted " or " crested ". [Ed.]

CATTLEYA BICOLOR LINDL.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCXCII.

CATTLEYA BICOLOR LINDL.

THE TWO-COLOURED CATTLEYA.

CATTLEYA. Vide *Lindenia,* engl. ed., vol. I, p. 7.

Cattleya bicolor LINDL. *Bot. Reg.,* XXII (1836), sub. t. 1919. — ID., *Sert. Orch.,* t. 5, fig. 1. — ID., *Bot. Reg.,* XXIV, *Misc.* p. 80. — ID., XXX, sub. t. 5. — *Bot. Mag.,* t. 4909. — WARN. & WILL. *Orchid Album,* VII, t. 318.

Epidendrum bicolor RCHB. F. in *Walp. Ann.* VI, p. 34.

attleya bicolor was originally described by LINDLEY, in 1836, in the pages of the *Botanical Register*, from a drawing made by DESCOURTILZ. From the *Sertum Orchidacearum*, where this drawing was reproduced, we learn that it was found by DESCOURTILZ, on the trunks and branches of the largest trees, in the neighbourhood of Bom Jesus de Bananal, in the province of Minas Geraes. In 1837 living plants were introduced to England by Messrs LODDIGES, of Hackney, in whose nursery it flowered during the following year. It also flowered in the nursery of Mr PONTEY of Plymouth, in the same year, as LINDLEY afterwards recorded; and our colleague Mr ROLFE informs us that this specimen is preserved in LINDLEY's Herbarium at Kew. We have thus evidence of its cultivation in Europe for a period of over half a century. The species is also known to grow in the mountains near Rio de Janeiro, and it may have been from this habitat that these original plants were introduced.

The specific name given to this species applies equally well to several others, yet it expresses clearly the impression produced at a first glance, for its flowers show such distinct colours, having the segments clear brown, and the lip of a bright amethyst violet. These colours harmonise perfectly with that of the foliage, and the species being very floriferous, like the majority of others of this section, and producing its flowers in groups of three to eight and even ten together, we may rank it among the most valuable species for decorative purposes.

We should also add that its flowers are produced in the autumn, which still further increases its value.

Cattleya bicolor has the pseudobulbs slender, cylindrical, about eighteen inches high, and bearing a pair of oblong leaves at the apex. It resembles *C. guttata*, much in habit, but its pseudobulbs are smaller. As regards culture it appears not to differ from this species, nor yet from the great majority of Cattleyas. A well lighted and ventilated house suits them perfectly; the moisture

in the atmosphere should also be abundant, and the temperature should range from 10° to 14° Centigrade (50° to 58° Fahrenheit) in winter, and from 18° to 20° C. (65° to 70° F.) in summer.

During the period of growth the plants require copious waterings. After the flowering period, they should be allowed to undergo a period of repose for some little time, during which the waterings should be reduced to that strictly necessary, and afterwards, as they increase progressively in activety, the amount of water at the roots should be gradually augmented, until the pseudobulbs have arrived at maturity. At this epoch — we speak of September to October — care should be taken to let the plants have as much sun as possible, so that the growths of the year should be thoroughly ripened. Lastly, they should have a good rest, from the end of November to about the end of February.

L. L.

English Edition PART. VIII. September 1891.

LINDENIA

ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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CORYANTHES LEUCOCORYS ROLFE

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCXCIII

CORYANTHES LEUCOCORYS ROLFE.

THE WHITE-HELMETED CORYANTHES.

CORYANTHES. Sepala libera, patentissima, magna, irregulariter undulato-flexuosa, posticum lateralibus brevius latiusque. Petala sepalis multo minora, erecta, torta. Labellum carnosum, ungue longo patente cum basi columnae continuum, lobi laterales in medio ungue in appendicem poculiformem connati, medius magnus, galeatus. Columna longiuscula, teres, apice inflexo-clavata vel breviter bialata, apoda, basi biauriculata vel bicornuta; clinandrium parum prominens. Anthera terminalis, opercularis, incumbens, convexa, carnosa, bilocularis; pollinia 2, cerea, anguste oblonga, sulcata, inappendiculata, anthera dehiscente stipiti lineari affixa, glandula parva.

Herbae epiphyticae, caulibus abbreviatis, mox in pseudobulbos carnosos apice bifoliatos incrassatis. Folia ampla, nervosa, subplicata. Scapi ad latera pseudobulborum reflexi, simplices. Racemi laxe pauciflori, floribus maximis breviter pedicellatis.

Species circa 10, Americae tropicae incolae.

Coryanthes HOOK. *Bot. Mag.*, LVIII (1831), t. 3102. — BENTH et HOOK. F. *Gen. Plant.*, III, p. 549.

Coryanthes leucocorys. Pseudobulbi oblongo-ovoidei, 1 1/2-2 1/4 poll. longi. Folia lanceolata, acuta, 10 poll. longa. Pedunculus 1-2 florus. Bracteae late ovatae, subobtusae, 1-1 1/2 poll. longae. Ovarium pedicellatum 4 1/4 poll. longum. Sepalum posticum suborbiculare 1 3/4 poll. longum. Sepala lateralia oblique falcato-oblonga, subobtusa, 4 poll. longa, 2 poll. lata, torta. Petala falcata, lineari-oblonga, obtusa, 2 1/2 poll. longa, 7 lin. lata. Labelli unguis subarcuata, 1 1/2 poll. longa; hypochilium profunde concavum, 1 3/4 poll. longum, 1 1/2 poll. latum, apice obtusissimum; mesochilium 3/4 poll. longum, transverse corrugatum; epichilium 2 poll. latum, 1 3/4 poll. altum apice trilobum, lobo medio late oblongo obtuso 7 lin. longo, lobis lateralibus ovato-triangularibus falcatis acutis. Columna 2 poll. longa.

Coryanthes leucocorys ROLFE, *supra*.

Patria Peruvia.

arious shades of greenish-yellow and red have repeated themselves with tolerable regularity in the different species of Coryanthes which have successively been discovered, but now we have something decidedly novel and very handsome to record. It is a species with an ivory-white hood, which contrasts strikingly with the rose-coloured, bucket-shaped part of the lip. The accompanying illustration gives an excellent idea of the character of the plant. It is a native of Peru, whence it was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, and flowered in their collection during June of the present year. The flower whence this description was taken reached me in quite fresh condition, and on opening the box I was much struck with its beauty and the charming contrast of its delicate colours. Nothing of the kind has been seen before, so far as I can ascertain, and I therefore propose to call it *C. leucocorys*, in allusion to its white, helmet-shaped hood.

It is somewhat difficult to speak of the affinities of so distinct a plant, especially as some of the species are very imperfectly known, but it can well be compared with *C. macrantha* and *C. Bungerothii*. The strong transverse plates on

the mesochile are very similar in character, but the hood is shallower, and its apex, though it overlaps the edge of the bucket, and thus approaches *C. Bungerothii* somewhat, is not prolonged in front as in that species, a character well shown at plate 244 of the *Lindenia*.

The structure of a genus so complex as is the present one is not easily described in few words, nor can all the details be clearly indicated by the most faithful portrait. We may therefore append the following particulars of the present species : —

The dorsal sepal is suborbicular in outline, with the apex reflexed, 1 3/4 inches in diameter, striped and suffused with light brownish-purple on a pale yellowish-green ground. The lateral sepals are oblique, falcate-oblong, subobtuse, 2 inches broad, by more than twice as long, and curiously contorted, lightest yellowish-green, striped with light brownish-purple. The petals are falcate, linear-oblong, obtuse, 2 1/2 inches long by 7 lines broad, white, suffused and obscurely striped in the middle with light purple. The stalk of the lip is somewhat curved, 1 1/2 inches long, ivory-white. The hood is oblique, almost of the shape of one valve of a cockle-shell, 1 3/4 inches long, by 1 1/2 broad, and about 1 inch deep, the apex very obtuse, and extending beyond the mesochile, so as to overlap the edge of the bucket; ivory-white, with a V- shaped band of appressed satiny hairs, extending from the stalk on either side. The basal angles of the hood gradually curve into the mesochile, which is profoundly sulcate behind, only 3/4 of an inch long, and with about three transverse fleshy plates on either side (the basal pair very strong), and several blunt teeth in front; the whole ivory-white. The bucket is 2 inches in diameter, nearly 1 1/2 inches from front to back, and 1 3/4 inches deep; the sides large and rounded at the margin. It is suffused and marbled with a beautiful light rosy-purple on a white ground, which, however, is nearly obliterated, especially on the sides; inside the colour is much paler, except near the margin. The apical teeth, as usual, are very fleshy; the front one oblong, very obtuse, and a little constricted near the apex; the side ones broadly triangular, with recurved tooth at apex. Just behind these is a strong fleshy transverse plate, over two lines high, and with three obscure teeth at apex, which prevents the fluid secreted by the two glands at the base of the column from escaping from the flat-bottomed bucket. The ovary is 4 1/4 inches long, irregularly blotched with lurid purple on a pale ground, and the greenish-white column 2 inches long, in structure much resembling other species of the genus.

R. A. Rolfe.

DENDROBIUM SUPERBIENS RCHB. F.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCXCIV.

DENDROBIUM SUPERBIENS RCHB. F.

THE SUPERB DENDROBIUM.

DENDROBIUM. Vide *Lindenia,* Engl. ed., vol. I, p. 37.

Dendrobium superbiens. Caule elato crasso; foliis latis lineari-oblongis acutis crassis, dimidiam longitudinem prope latis, vaginis purpureo-striatis; racemis elongatis multifloris; mento breviter extinctiformi antice medio obscure gibbo; sepalis ligulatis triangulis apiculatis, lateralibus subcurvis; petalis subspatulatis obtusis bene longioribus; labello trilobo, lobis lateralibus extrorsis semiovatis, lobo medio oblongo obtuso lato, hinc retusiusculo, nervis principalibus quinis, nervillis lateralibus pluribus conspicuis asperulis, carinis supra nervos principales a basi in basin laciniae mediae, ibi semi-oblongo lamellato-elevatis, dorso serrulatis, dentibus uniseriatis.

Dendrobium superbiens RCHB. F. in *Gard. Chron.*, 1876, pt. 2, p. 516. — ID. 1878, pt. 1, pp. 40, 49, fig. 9, et p. 652. — *Fl. Mag.*, n. s. t., 294. — *Reichenbachia,* ser. 1, vol. I, p. 87, t. 39. — FITZGERALD *Austral. Orch.*, pt. 1. — VEITCH *Man. Orch. Pl.*, pt. 3, p. 76. — WARN. & WILL. *Orchid Album,* VII, t. 312.

D. Goldiei RCHB. F. in *Gard. Chron.*, 1878, pt. 1, p. 652. — *The Garden*, XIV (1878), p. 244, t. 145.

his beautiful Australian Dendrobium was originally introduced to Europe in 1876, when it was sent to Messrs JAMES VEITCH & SONS, of Chelsea, by the late Sir WILLIAM MACARTHUR, of Cambden Park, near Sydney, New South Wales, and was described by Prof. REICHENBACH in the autumn of that year. It is a native of the Cape York Peninsula, North Queensland, and some small adjacent islands in Torres Straits.

It is an exceedingly handsome plant, for in a wild state the stems are said to reach a height of three to four feet, and as these have been seen with the scars of four inflorescences, and the racemes themselves with as many as twelve flowers, the effect of a fine clump in flower can well be imagined. Indeed, the plate in *Fitzgerald's Australian Orchids*, which was " taken from a plant grown in the greenhouse of the late Sir WILLIAM MACARTHUR, " who was the original introducer of the species, shows as many as fifteen flowers on a pendulous raceme over a foot and a half long, and we are told that " a plant in the possession of Captain BLOOMFIELD continued in flower for thirteen months continuously, producing at least twelve spikes at a time, the individual flowers lasting three months. "

It is allied to *D. bigibbum* LINDL., on the one hand, and *D. undulatum*, R. BR., on the other, and indeed has been suggested to be a natural hybrid between them, though I see no ground for the latter supposition. From *D. bigibbum* it is readily distinguished by its narrower and more undulate sepals and petals, as well as by the different details of the lip and spur, and by the different habit.

D. Goldiei, described with evident reluctance by REICHENBACH, does not appear to be more than a rather distinct local variety, though its differences are

MASDEVALLIA CORIACEA LINDL.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCXCV.

MASDEVALLIA CORIACEA LINDL.

THE CORIACEOUS MASDEVALLIA.

MASDEVALLIA. Sepala basi v. altius in tubum connata, in acumen v. caudem patentem producta. Petala multo minora, saepius angusta. Labellum parvum, polymorphum, cum pede columnae articulatum. Columna erecta, superne v. apice solo marginata v. alata, basi in pedem brevem producta; clinandrium obliquum, nunc breve truncatum, nunc latum concavum v. fere cucullatum, cum alis columnae continuum, margine varie dentatum. Anthera terminalis v. intra clinandrium affixa, opercularis, incumbens, convexa v. cucullata, 1-locularis; pollinia 2, cerea, ovoidea, inappendiculata, libera v. apice visco parco cohaerentia.

Herbae epiphyticae v. terrestres, caespitosae v. rhizomate repente, non pseudobulbosae. Caules 1-foliati, infra folium brevissimi v. vix ulli, vaginis 1-2 scariosis inclusi. Folium coriaceum, basi in petiolum longum basi non vaginantem contractum. Pedunculus scapum simulans, basi cum petiolo in vagina scariosa inclusus, ipse 1-3-vaginatus, 1-florus v. laxe racemoso-puriflorus. Flores mediocres v. majusculi, saepe pulchre colorati v. varie picti.

Species ultra 150, montes Americae tropicae a Peruvia usque ad Mexicum incolae, in Brasilia et Guiana perpaucae.

Masdevallia RUIZ et PAV. *Fl. Peruv. et Chil. Prodr.* (1794), p. 122, t. 27. — BENTH et HOOK F. *Gen. Plant.*, III, p. 492.

Masdevallia coriacea. Dense caespitosa; foliis lineari-oblongis, apice minute tridentatis, basi attenuatis, coriaceis; pedunculum folio aequante seu superante, vagina in medio; bractea cucullata ovario pedicellato breviori; mento obtusangulo, cupula haud longiore; sepalo summo a basi sublatiori attenuato caudato; sepalis inferioribus ad mediam partem connatis triangulis, apice caudatis; petalis ligulatis apiculatis carina una in medio prosiliente; labello oblongo apice obtuso, ibi dense papilloso-verrucoso, carina una utrinque basin versus, columna clavata angulata, androclinio minute serrulato.

Masdevallia coriacea LINDL. in *Ann. & Mag. Nat. Hist.*, ser. 1, XV (1845), p. 257. — ID., *Orch. Linden.*, p. 4. — RCHB. F. in *Gard. Chron.*, 1872, p. 1067. — KARST. *Fl. Colomb.* II, p. 103, t. 153.

asdevallia coriacea was originally described in 1845, from dried specimens collected by HARTWEG three years previously, on the Eastern Cordillera of New Granada, in the province of Bogota, at 8,000 to 9,000 feet elevation. M. LINDEN also collected it in the forests of Fusagasuga, in the same province, at an altitude of 7,200 feet. HOLTON, WEIR and PURDIE also obtained dried specimens in the same district, but is was not imported alive until 1871, when it was sent by BRUCHMÜLLER to Messrs HUGH LOW & C°, of Clapton. In the following year it flowered with Messrs JAMES VEITCH & SONS, of Chelsea, as recorded by REICHENBACH in the pages of the *Gardeners' Chronicle* at that time. At first it was distributed into gardens as *M. Bruchmülleri*, being thought to be a new species, but it was never described, and the name was superseded as soon as it was authentically identified with LINDLEY'S *M. coriacea*.

The specific name was given in allusion of the leathery texture of the leaves.

The specimen here figured is one which flowered in the collection of Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Leopold, Brussels, a

short time ago. It is somewhat darker in the ground colour of the sepals than usual, but there does not appear to be any other essential difference in the flower.

Masdevallia coriacea may be taken as the type of a considerable section of the genus, the section Coriaceæ, characterised by its distinctly coriaceous perianth, varying from shortly and broadly to narrowly tubular, the tails of the sepals usually short and rigid, and the peduncles usually 1-flowered. Its exact limits are rather difficult to define, because a few species are somewhat anomalous, and its relation to other sections is not yet clearly defined. It includes, however, a considerable number of cultivated species, of which may be mentioned the following : *M. calura* Rchb. f., *M. campyloglossa* Rchb. f., *M. civilis* Rchb. f., *M. coriacea* Lindl., *M. demissa* Rchb. f., *M. elephanticeps* Rchb. f., *M. Gargantua* Rchb. f., *M. leontoglossa* Rchb. f., *M. Mooreana* Rchb. f., *M. pachyantha* Rchb. f., *M. peristeria* Rchb. f., *M. platyglossa* Rchb. f., *M. porcelliceps* Rchb. f., *M. Rolfeana* Kraenzlin, *M. torta* Rchb. f., *M. velifera* Rchb. f., and a few others ; also several species which have not hitherto appeared in cultivation.

The requirements of these high alpine Orchids are now pretty well understood. They succeed best in a house with an east or north-east aspect, and the coolest possible treatment during hot weather, by shading and keeping the air, as fully charged with moisture as possible, and generally keeping them under what is known as cool treatment.

R. A. Rolfe.

DIACRIUM BICORNUTUM BENTH.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCXCVI.

DIACRIUM BICORNUTUM BENTH.

THE TWO-HORNED DIACRIUM.

DIACRIUM. Sepala subaequalia, libera, patentia, crassiuscula, petaloidea. Petala sepalis subsimilia. Labellum a basi columnae patens, sepalis subaequilongum; lobi laterales patentes v. reflexi, medius longius; discus inter lobos laterales elevatus; supra bicornutus, cornubus subtus excavatis. Columna brevis, lata, leviter incurva, in alas angustas crassiusculas expansa; clinandrium obliquum, obtusum. Anthera terminalis, opercularis, incumbens, semiglobosa, 2-locularis, loculis septo longitudinali 2-locellatis; pollinia 4, cerea, lato-ovata, aequalia, a latere parallele compressa, 1-seriata, in quoque loculo appendicula granuloso-viscosa lineari a basi marginibus applicita connexa.

Herbae epiphyticae, caule carnoso in pseudobulbum elongatum incrassato. Folia pauca, ad apicem conferta, rigide coriacea, subcarnosa, cum vagina brevi articulata. Pedunculus terminalis, simplex, vaginis paleaceis distantibus arcte appressis. Flores speciosi, laxe racemosi, breviter pedicellati. Bracteae parvae.

Species descriptae 4, Guianae Americae centralis et Mexici incolae.

Diacrium BENTH. in *Journ. Linn. Soc.*, XVIII (1881), p. 312. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 526.

Diacrium bicornutum. Pseudobulbis subfusiformibus apice 3-4-foliatis, foliis lineari-oblongis obtusis coriaceis, sepalis ovato-lanceolatis acutis, petalis conformibus latioribus concavis, labello libero trilobo, lobo medio elongato lanceolato acuto, lobis lateralibus oblongis obtusis, disco supra basi alte bicornuto, columna clavata.

Diacrium bicornutum, BENTH. in *Journ. Linn. Soc.*, XVIII (1881), p. 312. — BENTH. et HOOK. F., *Gen. Plant.*, III, p. 526. — ROLFE in *Gard. Chron.*, 1887, pt. 1, pp. 44, 45, fig. 11. — VEITCH *Man. Orch. Pl.*, pt. 6. p. 79, cum xylogr.

Epidendrum bicornutum HOOK. *Bot. Mag.*, LXI (1834), t. 3332. — PAXT. *Mag. Bot.*, V, p. 245, cum. ic. — LINDL. *Fol. Orch. Epidendr.*, p. 27. — RCHB. F. in *Walp. Ann.*, VI, p. 345. — *Jenn. Orch.*, t. 21. — WARN. et WILL. *Orchid Album,* IV, t. 157.

his handsome Orchid was originally introduced by Messrs SHEPHERD, of Liverpool, in 1833, from Trinidad, where it grows on rocks or small islets close to the sea. It flowered for the first time in Europe in the collection of EARL FITZWILLIAM, at Wentworth, in April of the following year. It was originally described by Sir WILLIAM HOOKER, in the *Botanical Magazine*, from the same source, as *Epidendrum bicornutum*. LINDLEY referred it, with two other allied species, to a distinct section of the genus, which he called *Diacrium*, and this was raised to the rank of a genus by BENTHAM, on the ground that the peculiar bicornute labellum, which is neither adnate to, nor parallel with the column, gives the flower a very different aspect from that of the true species of *Epidendrum*, and cannot be included among them without doing violence to the generic characters.

In a note in the *Kew Herbarium* Dr BRADFORD remarks : " This most beautiful species is found in the greatest abundance on the coast and on the adjacent islands of the Boca de Moros, at Trinidad. The rocks and stumps of decaying trees are in some places covered with it. It flowers chiefly in the early part of the year, from January to April. "

In 1837 it was met with by SCHOMBURGK at the River Berbice, in British

Guiana, where it grows on trees by the river's banks; and recently Im Thurn has collected it at the Corentyne River, and Jenman at the Essequebo River, in the same country. It also grows in the island of Tobago, whence fine herbarium specimens have been sent by Meyer.

In the wild state the hollow stems of this species are tenanted by small ants, which find ingress through a cleft at the base, which is invariably present in the new growths, even under cultivation.

For its successful cultivation, a high temperature and moist atmosphere are necessary, especially while the plant is growing. It is somewhat difficult to establish, unless the pseudobulbs are thoroughly sound, for they are apt to decay from within, and if cracked during transmission, as is said to be frequently the case, they never get well established.

The plant described as *Epidendrum indivisum* Bradford (Griseb. *Fl. Brit. W. Ind.*, p. 614), which has recently flowered at Kew, appears to be only an abnormal cleistogamous variety of this species. It is a native of Trinidad.

The following are the other species of the genus : —

D. bidentatum Hemsl. *Biol. Centr. Amer.*, III, p. 221. *Epidendrum bidentatum* Lindl., *Gen. et Sp. Orch.*, p. 98. — Native of Mexico.

D. bigibberosum Hemsl. *l. c.*, p. 222. *Epidendrum bigibberosum* Rchb. f., in *Walp. Ann.*, VI, p. 346. — Native of Guatemala, according to Reichenbach; formerly cultivated by Consul Schiller, at Hamburgh.

D. bilamellatum Hemsl. *l. c.*, p. 222. *Epidendrum bilamellatum* Rchb. f., in *Walp. Ann.*, VI, p. 345. — Native of Panama and Caraccas.

These three species are at present very imperfectly known, and their exact relation to *E. bicornutum* somewhat doubtful. The first is only known to me by a sketch of a single flower in Lindley's Herbarium. The second is said to have been re-introduced into British collections from the valley of the Magdalena, where it occurs in the damp jungle that lines the river side, and to be simply a miniature form of the type as regards its flowers. The third I only know by description. There are however unnamed specimens at Kew from Nicaragua, Venezuela, and Colombia, which probably belong in part to the above. The genus will require careful re-examination when more material accumulates.

R. A. Rolfe.

English Edition PART. IX. October 1891.

LINDENIA

ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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DENDROBIUM × AINSWORTHI T. MOORE

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCXCVII.

DENDROBIUM × AINSWORTHII T. MOORE.

Dr AINSWORTH'S DENDROBIUM.

DENDROBIUM. Vide *Lindenia*, Engl. ed., vol. I, p. 37.

Dendrobium × *Ainsworthii*. Hybridum inter *Dendrobium aureum* et *D. nobile* productum. Pseudobulbier ecti, multifoliati. Folia lineari-oblonga, acuta. Racemi axillares, breves, 2-3 flori. Sepala oblonga, obtusa. Petala elliptico-oblonga, obtusa. Labellum ovato-ellipticum obtusum, basi convolutum.

Dendrobium × *Ainsworthii* T. Moore in *Gard. Chron.*, 1874, pars 1, p. 443, fig. 93, 94. — *Floral Mag.*, n. s. 1876, t. 196. — *Florist and Pomol.*, 1874, p. 114, cum xyl. — *Gard. Chron.*, 1877, pars 1, p. 751. — Id., pars 2, pp. 166, 167, fig. 30-32. — Id., 1881, pars 2, p. 624, fig. 125. — *Gartenfl.*, 1887, p. 548, fig. 135. — Id., 1890, pp. 176, 177, fig. 42. — Warn. *Sel. Orch.*, ser. 3, t. 30. — Williams *Orch. Gr. Man.*, ed. 6, p. 268, cum xyl. — Veitch *Man. Orch. Pl.*, pars 3, p. 86, cum. xyl.

Var. roseum T. Moore, in *Gard. Chron.*, 1877, pars 1, p. 665. — Warn. & Will. *Orchid Album*, I, t. 20. — *Gard. Chron.*, 1877, pars 1, p. 750. — Id., pars 2, p. 166.

Hybrid Dendrobiums now play a very important part in the embellishment of our Orchid collections, and are likely to do so in an increased degree in the near future; their beauty and floriferousness, and the ease with which they can be grown, all tending to make them very popular. The subject of the present plate appeared as long ago as 1874, and although not the first raised, it was the first to be described and figured. *D.* × *Dominianum*, which preceded it, was not described until 1878, though it had been in cultivation for some years previous.

Dendrobium × *Ainsworthii* was raised by Mr Mitchell, in the collection of Dr Ainsworth, of Broughton, near Manchester, between *D. aureum* and *D. nobile*, the former having since been stated to be the seed parent, though this point was not recorded in the original description. The seed was sown in March 1867, on a block of wood, and in February 1874 the first flowers expanded. On the 18 th. of that month it was exhibited before the Royal Horticultural Society, when it was deservedly awarded a First-class Certificate. Its appearance at that time may be seen from a figure in the *Gardeners' Chronicle* (1874, pt. I, p. 443, fig. 94) which was prepared from a photograph, and Mr T. Moore in describing it remarked, " it is in truth a very distinct novelty, and will make a very attractive plant. "

In habit it closely resembles *D. nobile*, while the shape of the flowers is rather nearer to *D. aureum;* their colour is white, with a large feathered blotch of rich amaranth or claret-purple on the disc.

The variety *roseum*, which is said to have appeared in the same batch of seedlings as the original form, has the sepals and petals tinted with light rose, and the white of the lip replaced by bright rose. A plant which was exhibited by

Mr Mitchell at one of the Manchester shows, in May 1877, is said to have been two feet across, and to have been smothered with hundreds of its beautiful flowers.

The same cross has been raised upon more than one occasion. Plants are said to have appeared in the Fairfield Nursery, near Manchester, about the same time as those in Dr Ainsworth's collection; and others have appeared at a later date. *D.* × *splendidissimum*, perhaps the finest hybrid which has yet appeared, has the same parentage, though the flowers have rather more of the *D. nobile* character. They are exceptionally large and brilliantly coloured. It was raised by Messrs James Veitch & Sons, of Chelsea. *D.* × *Leechianum*, which was raised in the collection of Mr W. Leech, of Fallowfield, near Manchester, is from the reversed cross, but is smaller than the preceding, which it otherwise much resembles.

D. × *Ainsworthii* has itself been used for hybridising purposes. Crossed with the pollen of *D. Findlayanum*, in the collection of Sir Trevor Lawrence, Bart., M. P., of Burford Lodge, Dorking, it has yielded the handsome secondary hybrid, *D.* × *chrysodiscus;* while the reverse cross has yielded *D.* × *melanodiscus*, in the same collection. These two secondary hybrids are extremely diverse from each other, so much so that their real origin could scarcely have been guessed, had it not been carefully recorded, a proceding which should never be neglected. Another point worthy of mention is that of four plants of *D.* × *chrysodiscus*, no two were alike in their flowers, a circumstance to which secondary hybrids seem especially liable.

R. A. Rolfe.

CATASETUM BARBATUM LINDL. var. SPINOSUM

A. Goossens pinx. P. De Pannemacker chrom.

PL. CCXCVIII.

CATASETUM BARBATUM LINDL. var. SPINOSUM.

THE BEARDED CATASETUM, SPINOSE VARIETY.

CATASETUM. Vide *Lindenia*, Engl. ed., vol. I, p. 15.

Catasetum barbatum. Pseudobulbi fusiformi, cylindracei. Folia oblongo-lanceolata, acuta, basi angustata. Racemi erecti v. arcuati. Flores dimorphi. — ♂. Sepala lanceolata, acuta, lateralia patentia, sepalum posticum erectum. Petala sepalo postico subadpressa, paullo minora. Labellum inferum, oblongum, medio infractum et saccatum, margine in pilis succulentis albis numerosissimis dissoluto, basi supra unicorni. Columna subclavata, apice rostrata, infra medio cirrhis duabus gracilibus cornu labelli amplectentibus. Pollinia 4, per paria sibimet incumbentia, cerea, oblonga, anthera dehiscente stipiti longo loriformi affixa, glandula magna crassa. — ♀. Sepala lanceolato-oblonga, acuta, reflexa. Petala similia. Labellum superum galeatum, crasse carnosum, apiculatum, margine crenulatum. Columna brevissima et crassissima, breviter rostrata, ecirrhosa; anthera imperfecta.

Catasetum barbatum LINDL. *Bot. Reg.*, XXX (1844), *Misc.*, p. 38. — RCHB. F. in *Walp. Ann.*, VI, p. 570. — ROLFE in *Journ. Linn. Soc.*, XXVII, p. 217.

Myanthus barbatus LINDL. *Bot. Reg.*, XXI (1836), t. 1778. — *Bot. Mag.*, t. 3514. — PAXT. *Mag. Bot.*, II, p. 124, cum ic. — KN. & WESTC, *Fl. Cab.*, I, t. 37. — SCHOMB. in *Trans. Linn. Soc.*, XVII, p. 551. t. 29. — DARWIN in *Journ. Linn. Soc.*, VI, p. 153, fig. 2.

Monachanthus viridis SCHOMB. in *Trans. Linn. Soc.*, XVII, p. 551 (pro parte), t. 29. — DARWIN in *Journ. Linn. Soc.*, VI, p. 153, fig. 2 A, *non Lindl.*

Catasetum barbatum var. spinosum. Labellum spinoso-acuminatum.

Var. spinosum ROLFE, supra.

Myanthus spinosus HOOK. *Bot. Mag.*, LXVII (1841), t. 3802.

Catasetum spinosum LINDL. *Bot. Reg.*, XXVI (1840), *Misc.*, p. 65.

This is one of the earliest known Catasetums, for it appeared as long ago as 1836, when it was described and figured by LINDLEY, under the name of *Myanthus barbatus*, in the *Botanical Register*. LINDLEY there observes: " This curious new species is a native of Demerara, near the falls of Wapopekai, on the Massarony river, some hundreds of miles from its mouth, where it was found by Mr JOHN HENCHMAN, growing in the clefts of trees in shady situations. It was first sent us in February last by Mr Low, with whom it first flowered, but almost immediately after we received it from Chatsworth, and from the garden of Mr WILLMORE, of Oldfield, near Birmingham. " In the same year it was also figured in the *Botanical Magazine*, from a Demeraran specimen which flowered with M. ALLCARD, of Stratford Green, Essex, in May of that year.

In 1841 a new Myanthus was described in the *Botanical Magazine*, under the name of *M. spinosus*. Its author, Sir WILLIAM HOOKER, remarks that it is one of the few Orchids which rewarded Mr GARDNER's researches in the province of Ceará, in the interior of Brazil. It flowered for the first time at Kew, in February, 1840. It was afterwards reduced as a synonym of *C. barbatum* by Dr LINDLEY, together with his own *C. proboscideum*, another Brazilian plant, with the remark that no

doubt they were mere varieties of the same natural form. The same form appeared with Messrs Linden, L'Horticulture Internationale, Parc Leopold, Brussels, during the present summer, from which the annexed figure was prepared, and as it presents some slight differences from the typical *C. barbatum* it seems best to retain it as a separate variety. The ultimate position of this and a few other described species of the same affinity cannot at present be precisely determined, as some of them were described from very scanty materials. The variety *spinosa*, if such it can be called, differs in very slight characters, and I am not certain whether these are really constant. The apex of the lip terminates in an acuminate, somewhat spine-like point, whence its name is derived, and the sepals and petals have narrower and more numerous transverse bars, in addition to which may be mentioned the different native country.

The male flowers alone are represented in the annexed plate, but it is now well known that the females are sometimes produced from the same pseudobulb, and even on the same raceme. Their very different structure and appearance is now well known, but in former times was an immense puzzle to naturalists. Having been described as belonging to distinct genera their appearance on the same plant excited no small degree of wonder. The females of different species also bear a close resemblance to each other, and at least three of them were confused under the same name, i. e. *Monachanthus viridis*, which was thus thought capable of sporting indiscriminately into both *Catasetum barbatum* and *C. tridentatum*, if not indeed into others, and the idea seemed fast gaining ground that the ordinary conceptions of genera and species could not be applied to *Catasetum*. Even when Darwin pointed out that *Catasetum tridentatum* was a male, and *Monachanthus viridis* a female Orchid, he fell into the error of supposing *Catasetum barbatum* to be a third, or hermaphrodite form of the same species. The history of this confusion may be found in my paper on the " Sexual Forms of Catasetum, " published in the twenty-seventh volume of the *Journal of the Linnean Society*, which has already been mentioned in the pages of the *Lindenia*.

R. A. Rolfe.

CATTLEYA LABIATA AUTUMNALIS

Mr. F. Sander, of St. Albans, about a fortnight ago, announced that the autumn-flowering *Cattleya labiata vera* had been re-introduced, thanks to " his indefatigable enterprise and persistent zeal. "

We may, however, point out that its re-introduction is due to Messrs Linden, L'Horticulture Internationale, Brussels, eighteen months aho, for *Cattleya Warocqueana* has now proved to be a synonym of the celebrated *Cattleya labiata vera*.

LAELIO-CATTLEYA × ARNOLDIANA ROLFE

A. Goossens pinx. P. De Pannemacker chrom.

PL. CCXCIX.

LAELIO-CATTLEYA × ARNOLDIANA ROLFE.

Mr ARNOLD'S LAELIO-CATTLEYA.

LAELIO-CATTLEYA. Genus artificiale pro hybridis inter *Cattleyam* et *Laeliam* creatum.

Laelio-Cattleya ROLFE in *Journ. Linn. Soc.*, XXIV (1888), p. 168. — ID., in *Gard. Chron.*, 1889, pars 2, p. 78.

Laelio-Cattleya × *Arnoldiana*. Hybrida inter *Laeliam purpuratam* et *Cattleyae labiatae* varietatem producta. Pseudobulbi fusiformes, 6-8 poll. longi, monophylli. Folia lineari-oblonga, 12 poll. longa, 2 1/2 poll. lata. Flores 7 poll. diametro. Sepala anguste lanceolata, patentia. Petala multo latiora, deflexa, margine undulata. Labellum magnum, lobo medio lato expanso crispo-undulato.

Laelio-Cattleya × *Arnoldiana*. ROLFE in *Journ. des Orch.*. II, p. 134.

Laelia × *Arnoldiana* HORT. *Gard. Chron.*, 1891, pars 1, pp. 740, 742. — *Journ. of Hort.*, 1891, pars 1, p. 491, fig. 93.

The magnificent hybrid which is the subject of the present plate was raised in the establishment of Messrs F. SANDER & Co., of St. Albans, from *Laelia purpurata* fertilised with the pollen of one of the varieties of *Cattleya labiata*, though which one has not been recorded. It flowered for the first time during the present year, and was exhibited at a meeting of the Royal Horticultural Society on June 9 th. last, when it was awarded both a First-class Certificate and a Silver-Gilt Flora Medal. The seed was sown in 1881, and thus it has taken ten years to reach the flowering stage.

One of the plants has now passed into the collection of T. Statter, Esq., of Stand Hall, Whitifield, near Manchester, from which the annexed plate has been prepared.

The plant is of vigorous habit, the five pseudobulbs on the one exhibited being from 6 to 8 inches long, narrowly fusiform and somewhat compressed in shape. The leaves are stout, of a bright shining green, and about a foot long by 2 $^1/_2$ inches in diameter. The flowers, which are of graceful shape and appearance, measure over seven inches across. The sepals are narrowly lanceolate, and of a delicate rosy-purple hue while the much broader petals, which are drooping or recurving at the tips, and beautifully undulate, are of a similar colour, with some slightly darker veins in the centre. The lip is very handsome; the broad expanded part, which is nearly three inches in diameter, is of an intense rich magenta-crimson, with still darker veins, and a paler, very undulate margin; the throat is of a pale golden bronze tint. It is undoubtedly a very handsome plant, and one of the finest yet raised.

Laelia purpurata has been a popular plant with hybridists, and no wonder, for it has participated in the parentage of some of the handsomest hybrids which have yet appeared. There are three other hybrids raised between this species

and *Cattleya labiata*, or its varieties. The first is *Laelio-Cattleya* × *callistoglossa*, which was originally described in 1882. In this case *Cattleya labiata* var. *Warscewiczii*, better known in gardens as *C. gigas*, was the pollen parent, and the resulting hybrid is perhaps unequalled in size and in the gorgeous colouring of the lip. *Laelio-Cattleya* × *bella* appeared in 1884. The old autumn-blooming *Cattleya labiata vera* is said to have been the pollen parent, which is very curious, unless one or the other of the species was in flower out of its normal season, and thus furnished an opportunity for an unusual combination. It is a most handsome hybrid. *Laelio-Cattleya* × *Canhamiana* appeared in 1885, and in this case *Cattleya labiata Mossiae* was one of the parents. These three originally appeared with Messrs James Veitch & Sons, of Chelsea, but the last-named has since been raised in other establishments. All are great horticultural acquisitions.

Respecting the so-called genus *Laelio-Cattleya* perhaps a word may be said. *Cattleya* and *Laelia* form two quite natural groups, with four and eight pollen-masses respectively, but they readily hybridise together, not only under cultivation, but in two or three instances in a wild state. The resulting hybrids strictly speaking do not belong to either genus, but are intermediate in character, having four normally developed pollen-masses and four much smaller, sometimes nearly abortive ones. *Laelio-Cattleya* is thus a kind of artificial genus, founded for the reception of those hybrids which strictly speaking cannot be said to belong to either of the two parent genera.

R. A. Rolfe.

RHYNCHOSTYLIS COELESTIS RCHB. F.

A. Goossens, lith. R. De Bannemaeker, chrom.

PL. CCC.

RHYNCHOSTYLIS COELESTIS RCHB. F.

THE CELESTIAL RHYNCHOSTYLIS.

RHYNCHOSTYLIS. Sepala subaequilonga, inter se libera, patentia, lateralia postico latiora, pedi columnae affixa. Labellum ad apicem pedis columnae affixum, basi profunde saccatum ; lobi laterales obsoleti, medius supra saccum longe angustatum, apice inflexum, linguiforme v. obovatum. Columna brevis, crassa, semiteres, exalata, basi in pedem producta; clinandrium brevissimum, integrum ; rostellum crassiusculum, antice supra stigma prominens. Anthera terminalis, opercularis, incumbens, semiglobosa, imperfecte bilocularis; pollinia 2, cerea, subglobosa, sulcata v. fere bipartita, inappendiculata, anthera dehiscente stipiti longo filiformi affixa, glandula parva, submembranacea. Capsula oblonga v. subclavata, erostris, erecta v. patens, costis acute prominulis, interdum subalatis.

Herbae epiphyticae, caulibus foliatis non pseudobulbosis. Folia disticha, coriacea v. carnosa, plana, vaginis perdistentibus caulem obtegentibus. Racemi laterales, longi, densiflori, floribus majusculis v. mediocribus breviter pedicellatis. Bracteae parvae.

Species 2, Indiae orientalis et Archipelagi Malayani incolae.

Rhynchostylis BLUME *Bijdr. Fl. Ned. Ind.* (1825), p, 285, t. 49. — BENTH et HOOK. F. *Gen. Plant,* III, p. 574.

Rhynchostylis coelestis. Planta nana, erecta. Folia disticha, recurva, imbricata, linearia, apice inaequaliter bi-vel tridentata, coriacea, canaliculata. Racemus erectus, densiflorus. Sepala elliptico-oblonga, subobtusa. Petala paullo latiora. Labellum obovato-oblongum, auriculis sub columna angulatis minutissimis, lamina cum columna ascendenti subparallela unguiculata antice obtusa vel subemarginata, calcari compresso obtuso curvulo, aristis geminis, inclusis ab apice inferiore antrorsis. Columna brevissima rostrata.

Rhynchostylis coelestis RCHB. F. in *Gard. Chron.,* 1885, pars 1, p. 692, in nota. — VEITCH, *Man. Orch. Pl.,* pars VII, p. 53.

Saccolabium coeleste RCHB. F. in *Gard. Chron.,* 1885, pars 1, p. 692. — WARN. & WILL. *Orchid Album,* VIII, t. 361.

he present charming little plant was originally described by Prof. REICHENBACH, in 1883, in the pages of the *Gardeners' Chronicle*, in the following terms : — " One of the finest surprises I ever enjoyed. Take a short inflorescence of a white flowered *Saccolabium guttatum* (3 to 4 inches long), and imagine the dilated rhombic anterior part of the lip to be of the finest Italian sky-blue, as also to the tips of the sepals and petals, a blue tint on both sides of the centre of the recurved spur, and then add brown anthers with a flush of mauve, and you will be able to form an idea of the lovely thing. It has also a botanic merit of its own. Inside the compressed, blunt, slightly recurved spur rise from the apex of the under-side two falcate subulate bodies against the mouth of the spur. I received this from Sir TREVOR LAWRENCE, who kindly forwarded two fine inflorescences, informing me that the habit of the plant is that of *Saccolabium curvifolium*, LINDL. It is, to my taste at least, a lovely and most desirable thing. "

For several years nothing further appears to have been published respecting it, but about the beginning of 1889 a plate appeared in the *Orchid Album*, whence

we learn that " the species was collected and sent home in quantity by M. Röbbelin, who states that he found it growing upon isolated trees in the rice-fields of Siam, these trees being charred stumps which had survived the fires used in clearing the ground for cultivation, and many of the plants sent home by him bore out his statement, as they were growing upon partially burnt wood. "

Its flowering season is the months of July and August, and the racemes remain in perfection from three to four weeks if kept shaded and free from damp. The peculiar hue of its flowers is sufficient to ensure it a place in every collection where Saccolabiums are grown, for blue Orchids are but rarely met with, and the best varieties of this plant have this colour beautifully developed. As in many other cases this species shows a considerable diversity of colouring, some individuals having the lip and tips of the segments of a pale azure blue, while others are of a much deeper tint. It was awarded a First-class Certificate in July 1888, by the Royal Horticultural Society, when exhibited by Mr B. S. Williams of Upper Holloway.

It should be grown in a basket of sphagnum moss, with plenty of drainage, and suspended near the roof in the warm house, so as to receive plenty of light and air, though it must be shaded from strong sun. Saccolabiums require plenty of heat and moisture, and from its habitat it is clear that the present species forms no exception to the rule. On no occasion should they be allowed to become dry.

Like many of its allies it is rather a slow grower; but it is very floriferous, and as established specimens are said ultimately to become branched, it is sure to repay a little extra attention. Moreover the pleasing hue of its flowers, and the fact of their appearing at a time when Orchids are becoming scarce, are both points in its favour.

Rhynchostylis is a genus closely allied to *Saccolabium*, but differing in having a short foot to the column and in the spur being laterally compressed. There appears to be only one other species known, namely *R. retusa*, of which the plants known in gardens as *Saccolabium Blumei* and *S. guttatum* are varieties.

R. A. Rolfe.

English Edition PART. X. November 1891.

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CYCNOCHES PERUVIANUM ROLFE

A. Goossens pinx. P. De Pannemacker chrom.

PL. CCCI.

CYCNOCHES PERUVIANUM ROLFE.

THE PERUVIAN CYCNOCHES.

CYCNOCHES. Herbae epiphyticae, caulibus plurifoliatis mox longe carnoso-incrassatis v. pseudobulbos oblongos plurivaginatos formantibus. Folia ampla, plicato-venosa. Scapi ad axillas pseudobulborum nutanti v. rarius suberecti, simplices. Flores speciosi v. mediocres, in racemo pauci v. numerosi, dimorphi. — ♂. Sepala subaequalia, libera, patentia v. reflexa, carnosula v. membranacea. Petala sepalis similia v. paullo latiora. Labellum cum basi columnae continuum, patens, carnosum, basi plus minus in unguem contractum, superne lanceolatum v. orbiculatum, integrum v. varie lobatum, cristatum v. fimbriatum. Columna apoda, elongata, tenuis, valde arcuata, exalata, apice incurvo-clavata; clinandrium postice elevatum, acuminatum. Anthera terminalis, opercularis, incumbens, unilocularis; pollinia 2, cerea, globosa, sulcata, inappendiculata, anthera dehiscente stipiti lineari rigidula affixa; glandula magna, crassa, stigma abortivum. — ♀. Sepala subaequalia, libera, patentia, carnosula. Petala sepalis similia v. paullo latiora. Labellum cum basi columnae continuum, patens, carnosum, basi in unguem brevem contractum, superne ovatum v. elliptico-oblongum, integrum, carnosum. Columna apoda, brevis, crassa, valde arcuata, breviter rostrata, alata; alae carnosae, rigidae, deflexae, ovato-triangulae; stigma inter alas situm. Anthera abortiva.

Cycnoches LINDL. *Gen. & Sp. Orch. Pl.* (1832), p. 154. — BENTH. et HOOK. F. *Gen. Plant.* III, p. 552. excl. syn. — ROLFE in *Gard. Chron.*, 1891, pt. 2, p. 69.

Cycnoches peruvianum. Pseudobulbi fusiformes, 4-6 poll. longi. Folia lanceolata, acuta, plicata, 4-7 poll. longa. ♂ Racemus pendulus, gracilis, laxiflorus, 9 poll. longus. Bracteae lanceolatae, acuminatae, 9-12 lin. longae. Pedicelli circa 9 lin. longi. Sepala lanceolata, acuta, 1 poll. longa. Petala similia, subfalcata. Labellum unguiculatum, unguis 3 lin. longus, limbus orbiculatus, margine in processibus clavatis obtusisque 2 lin. longis soluto. Columna tenuissima, 1 poll. longa. — ♀ Ignotus.

Cycnoches peruvianum ROLFE, supra.

This interesting form — we cannot yet say whether it will prove to be a distinct species — is a native of Peru, whence it was introduced by Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Parc Léopold, Brussels, and flowered in that establishment during May of the present year. The male flowers only are at present known, and these are closely allied to the corresponding sex of *C. ventricosum* in structure, though they are not identical, and in colour they are quite distinct. Instead of being of a dark purple shade, they are light green, with numerous small brown spots, with a white lip, as shown in the annexed plate. *C. ventricosum*, moreover, is a native of Mexico and Guatemala. *C. stelliferum* LINDL., which has pale green flowers, has been supposed to be a variety of the same species, but it, too, is a native of Mexico. I have compared the present form with every described species, but have failed to identify it, and therefore propose for it the above name.

The sportive character of this singular genus is now well known, and it is to be hoped that with care the plant will gain in strength, and in due time produce female flowers, which in all probability will enable us to form a more decided opinion than at present. We may safely predict that they will be three

times the size of the males, and totally different in appearance and structure. Meantime the presence of the genus in Peru is an interesting discovery, and the species, whether it ultimately prove distinct or not, is quite different from anything known to me in cultivation at the present time.

This remarkable genus, which for so long was a puzzle to naturalists, was originally described by Dr. LINDLEY, in 1832, from a single flower, produced in the Nursery of Messrs LODDIGES, of Hackney, on a plant received by them from Surinam, to which the name of *Cycnoches Loddigesii* was given. Very soon afterwards it began to exhibit those peculiar propensities for which the genus soon became famous, as will be seen from the following extract from the *Botanical Register* for 1837, in a note under t. 1951. " In August 1836, Mr. WILLMER, of Oldfield, near Birmingham, sent me a specimen of a Cycnoches, which had broad petals, a short column, hooded and dilated at the apex, and a broad roundish lip, gibbous at the base, and with its stalk much shorter than the column. It was, however, destitute of scent, while *Cycnoches Loddigesii* has, as is well known, a delicious odour of Vanilla. I had no doubt of its being a distinct species, and called it *C. cucullatum*. But in the autumn of 1836, in the garden of the Horticultural Society, a plant of Cycnoches produced from the opposite sides of the same stem two racemes; those of the one raceme were the well-known fragrant flowers of *Cycnoches Loddigesii*, and of the other the scentless flowers of the new *C. cucullatum*. "

A few years later a still more remarkable case appeared, as is recorded by BATEMAN in his princely work, *The Orchidaceae of Mexico and Guatemala*, in 1843, t. 40. " Strange things — " he writes, " and no less strange than true — have already been recorded of Orchidaceous plants, but the case which is represented in the accompanying plate casts into the shade all former frolics of this Protean tribe. The facts are briefly as follows : — Among Mr SKINNER's earliest Guatemalan collections, attention was particularly directed to the specimens of a plant which to the habit of a Cycnoches joined the long pendulous stems of a Gongora, and for the possession of which, in a living state, no small anxiety was entertained. Some plants were speedily transmitted by Mr SKINNER, but these, on flowering, proved to be merely the old *C. ventricosum*. A mistake was of course suspected, and Mr SKINNER being again applied to, sent over a fresh supply of plants, for the authenticity of which he vouched; but these were scarcely settled in the stove, when flowers of *C. ventricosum* were again produced; Mr SKINNER being importuned for the third time, and being then on the point of returning to this country, determined to take one of the plants under his special protection during the voyage, which, flowering on the passage, seemed to preclude the possibility of further confusion or disappointment. The specimens produced at sea were exhibited, and the plant itself placed in the stove at Knypersley, where it commenced growing with the utmost vigour. The season of flowering soon arrived, but brought with it a

(*To be continued on p.* 31.)

LAELIA PURPURATA LINDL. var. ROSEA REGEL.

A. Goossens pinx. *G. Severeyns chrom.*

different flowers could have been borne by one and the same plant. " However to show that such a phenomenon was within the bounds of possibility, he gave a figure (on p. 77) in which the flowers of *C. ventricosum* and *C. Egertonianum* actually grew *intermixed* on the same raceme, in the collection of Mr Holford, of Westonbirt, near Tetbury, in Gloucestershire, and which had been exhibited at a meeting of the Horticultural Society. And at t. 22 of the same volume he remarks: — " If we were informed that the Camelopard in the Zoological Gardens had shortened the vertebra of its neck till it was no longer than a cow's, or that a Kangaroo had exchanged its tail for the switch of a Shetland pony, a more surprising thing would not be announced than those changes with which we are now familiar in this group of Orchidaceae. "

At t. 46 of the same work for 1846 he further remarks : — " *C. Egertonianum* is then a " sport, " as gardeners say, of *C. ventricosum*. But what again is *C. ventricosum?* Who knows that it is not another " sport " of *C. Loddigesii*, which has indeed been caught in the very act of showing a false face, something wonderfully suspicious, all things considered, and justifying the idea that it is itself a mere Janus, whose face is green and short on one side, and spotted and long on the other. Then if such apparently honest species as *C. Egertonianum*, *ventricosum*, and *Loddigesii* are but counterfeits, what warrant have we for regarding the other so-called species of not being further examples of plants masquerading with false faces? For ourselves, we cannot answer the question ; nor should we be astonished at finding some day a Cycnoches no longer a Cycnoches, but something else; perhaps a Catasetum. If one could accept the doctrine of the author of the " Vestiges, " it might be said that in this place we have found plants actually undergoing the changes which he assumes to be in progress throughout nature, and that they are thus subject to the most startling conditions only because their new forms *have not yet acquired stability*. "

Several other species have successively appeared in cultivation, one of which, namely *C. Warscewiczii*, produced two kinds of flowers on the same plant. More recently the second sex of three other species have been discovered. A plant of *C. pentadactylon* Lindl., in the collection of E. Gotto, Esq., of The Logs, Hampstead Heath, produced flowers of both sexes, and a short time ago Mr. Rand, of Pará, Brazil, sent to Kew a fine specimen showing the same phenomenon. Then a plant in the collection of Signor H. J. Ross, of Poggio Gherardo, Florence, Italy, produced flowers of both kinds, and proving to be a distinct species, was described as *C. Rossianum*. Lastly, during the present summer the female of *C. chlorochilon* has appeared, both in the collection of M. Houzeau de Lehaie, of Hyon, Mons, Belgium, and with Messrs F. Sander & Co., of St. Albans.

The last example is a specially interesting one, as it enabled a point to be cleared up which has long remained doubtful, and showed that, as in the allied genus Catasetum, the differences in the structure of the flowers are simply diffe-

(To be continued on p. 34.)

PL. CCCII.

LAELIA PURPURATA LINDL. var. ROSEA REGEL.

THE ROSE-COLOURED VARIETY OF LAELIA PURPURATA.

LAELIA. Vide *Lindenia,* Engl. ed., I, p. 41.
Laelia purpurata. Vide *Lindenia,* Engl. ed., I, p. 41.
Var. rosea. Sepalis roseo-lilacinis, petalis similibus parce roseo-venosis, labello normale.
Var. rosea REGEL, *Gartenflora,* XXI, p. 225, t. 730.

This very handsome variety originally appeared at the St. Petersburg Botanic Garden, from a plant imported direct from the island of Santa Catherina, and was figured in the *Gartenflora*, in 1872. The present one, which appeared with Messrs LINDEN L'HORTICULTURE INTERNATIONALE, Parc Léopold, Brussels, is substantially identical. Its essential character lies in the sepals and petals which are of a beautiful rosy-lilac shade, the latter having a deeper rose-coloured mid-nerve, and a few irregular radiating veins on either side. The lip is almost normal in character, but is not of quite so dark a purple as some of the other varieties. It is about intermediate between the type and the variety *Lowiana*, which is believed to be the darkest form which has hitherto appeared.

R. A. ROLFE.

(Continued from page 30.)

recurrence of the former scene of astonishment and vexation, for the blossoms, instead of those of the coveted novelty, were not distinguishable from the old *C. ventricosum*. These were still hanging to the stem, when the inexplicable plant sent forth a spike of a totally different character, and which was, in fact, precisely similar to the specimens gathered in Guatemala, and to those produced on the voyage. It is, at present, impossible to attempt any explanation of so strange a phenomenon, especially on the supposition that the two forms of flowers are analagous to the male and female blossoms of other tribes, for *C. ventricosum* alone not infrequently perfects seeds. "

These phenomena puzzled the sagacious LINDLEY exceedingly, for at p. 76 of the Miscellaneous matter of the *Botanical Register* for 1843 he remarks, that " notwithstanding the unquestionable authority of Mr BATEMAN, there were many persons, well skilled in the habit of Orchidaceae, who felt convinced that some mistake had been made, and that in reality it was impossible that such totally

PHALAENOPSIS VIOLACEA TEYSM.

A. Goossens pinx. *P. De Pannemacker chrom.*

PL. CCCIII.

PHALAENOPSIS VIOLACEA TEYSM.

THE VIOLET PHALAENOPSIS.

PHALAENOPSIS. Vide *Lindenia,* Engl. ed., I, p. 21.

Phalaenopsis violacea. Folia elliptico- v. obovato-oblonga, obtusa v. subacuta, coriacea, viridia. Scapi breves, 2-6- flori. Flores speciosi. Sepala oblongo-lanceolata, acuta v. subacuminata, lateralia paullo latiora. Petala similia, paullo breviora et latiora. Labellum trilobum, lobis lateralibus angustis truncatis medio obovato-oblongo apiculato carnoso carinato laevi basi bidentato. Columna clavata.

Phalaenopsis violacea TEYSM. *ex* WITTE in *Fl. Jard. Roy. des Pays-Bas,* IV (1861), p. 129, cum tab. — TEYSM. et BINN. in *Tijdschr. Nederl. Ind.,* XXIV, p. 320. — *Gard. Chron.,* 1878, pt. 2, p. 116, et p. 507. — *Id.,* 1881, pt. 1, pp. 144, 145, fig. 32. — *Fl. Mag.,* n. s., 1879, t. 342. — WARN. & WILL. *Orchid Album,* IV, t. 182. — ROLFE in *Gard. Chron.,* 1886, pt. 2, p. 277. — HOOK. F. *Fl. Brit. Ind.,* VI, p. 29. — VEITCH *Man. Orch. Pl.,* pt. 7, pp. 41, 42, cum xyl.

Stauritis violacea RCHB. F. in *Hamb. Gartenz.,* 1862, p. 31.

Var. bellina RCHB. F. in *Gard. Chron.,* 1884, pt. 2, p. 262.

Var. Bowringiana RCHB. F., *l. c.,* p. 262.

Var. chloracea RCHB. F., *l. c.,* p. 262.

Var. Murtoniana RCHB. F. in *Gard. Chron.,* 1878, pt. 2, p. 234.

Var. punctata RCHB. F. in *Gard. Chron.,* 1884, pt. 2, p. 262.

Var. Schröderi RODIGAS in *Ill. Hort.,* XXXII, p. 173, t. 576.

Var. Schröderiana RCHB. F. in *Gard. Chron.,* 1882, pt. 2, p. 680.

This elegant little Phalaenopsis appears to have been originally discovered by M. TEIJSMAN, near Palembang, in Sumatra, and was sent by him in 1859, both to the Botanic Garden at Leyden, and also to the collection of M. WILLINCK, at Amsterdam. It was originally described by M. WITTE, superintendent of the Leyden garden, where it flowered for the first time in Europe in 1861. For some time it appears to have been lost sight of, until it was sent by Mr. MURTON, of the Singapore Botanic Garden, to Mr. M. H. WILLIAMS, of Tredrea, in Cornwall, in whose collection it flowered in 1878. A plant from the same source also flowered with Messrs JAMES VEITCH & SONS, of Chelsea during the following year. In 1881 the last named firm received a consignment of plants from southern Sumatra, where they were detected by Mr. C. CURTIS, then collecting for the firm, in the hot damp forests of Palembang, growing on the trunks of trees overhanging streams and water-courses, sometimes associated with *P. sumatrana.*

It is now well known in cultivation, and has proved very variable in the colour of its flowers, which range from an almost uniform violet shade down to cream-white, with the segments somewhat barred and spotted in some of the varieties. In the light-coloured varieties, however, the front lobe of the lip usually

retains its violet colour, and in some cases also the contiguous halves of the lateral sepals, forming a very elegant contrast.

Phalaenopsis violacea has already been utilised by the hybridist, as it was the pollen parent of the handsome hybrid *P.* × *Harriettae*, and with so promising an offspring it is not improbable that it will again be utilised in the same direction.

R. A. Rolfe.

(Continued from page 32.)

rences of sex. It also proved that there are two distinct sections in the genus, one in which the flowers of both sexes closely resemble each other, the other in which they are very dissimilar (see my article in *Gardeners' Chronicle*, 1891, pt. 1, p. 69). The former section, as it contains the original species of the genus, may be designated Eucycnoches, the latter section, Heteranthae. To the former belong *C. chlorochilon* Klotzsch, *C. Loddigesii* Lindl., *C. Haagei* Rodr., and *C. versicolor* Rchb. f. The latter includes *C. ventricosum* Lindl. (syn. *C. Egertonianum* Batem.), *C. Warscewiczii* Reich. f., *C. maculatum* Lindl., *C. pentadactylon* Lindl., *C. aureum* Lindl. *C. Rossianum* Rolfe, *C. peruvianum* Rolfe, and two or three other imperfectly known species. Several of these species are not in cultivation at present, but we observe with pleasure that the group is now receiving more attention in gardens, and venture to hope that the next few years may see a further advance in our knowledge of so interesting a genus.

R. A. Rolfe.

The re-importation of *Cattleya labiata* marks a new sensation in Orchid records... Now we are offered it in quantities from the house of which M. Lucien Linden is director-in-chief, and we are glad to welcome it once more as one of the foremost of its race. Its easy culture makes it more popular, and with the quantities gathered there is sure to be varieties, some of which will doubtless eclipse the other forms so long in cultivation. Whenever we saw the one provisionnally named *C. Warocqueana*, we unhesitatingly declared that it was one or other of forms of *Cattleya labiata* so long looked for.

...This *labiata Pescatorei*, that we purchased on the continent was exactly the *Cattleya Warocqueana* of to-day... it is a nobilis nobilior flower. We have seen a good many plants from babyhood to maturity, there are some of the reddish-bulbed labiata among their number, the far greater portions, however, being the old *labiata Pescatorei*.

" *The Northern Gardener.* " 26th, September, 1891.

SELENIPEDIUM × CALURUM NICHOLSON

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCCIV.

SELENIPEDIUM × CALURUM NICHOLSON.

THE BEAUTIFUL-TAILED SELENIPEDIUM.

SELENIPEDIUM. Sepala patentia, posticum liberum, lateralia sub labello ad apicem connata. Petala libera, nunc sepalis multo angustiora interdum longe candata, nunc sepalis sublatiora obtusa. Labellum sessile, patens, inflato-calceiforme (nisi abnorme). Columna brevis, teres. Antherae perfectae 2, ad latera rostelli sessiles v. brevissime stipitatae, subglobosae, loculis parallelis contiguis; pollen granulosum, viscosum; staminodium pone rostellum erectum v. incumbens, late laminiforme v. carnosum, Rostellum inter antheras perfectas breve, erectum v. antrorsum inclinatum, apice in discum subtus papilloso-stigmatosum dilatatum. Ovarium perfecte 3- loculare. Capsula elongata, 3- locularis.

Herbae terrestres, rhizomate brevi v. repente, caule erecto varie foliata. Pedunculus terminalis, simplex v. ramosus, pauci- v. multiflorus. Stores speciosi v. rarius mediocres, pedicellati.

Species circa 12, Americae tropicae montanae incolae.

Selenipedium RCHB. F. in *Bonplandia,* II, p. 116. — BENTH et HOOK. F. *Gen. Plant.,* III, p. 635.

Uropedium LINDL. *Orch. Linden,* p. 28.

Selenipedium × *calurum*. Hybridum inter *S. longifolium* ♀ et *S.* × *Sedeni* ♂ productum. Folia elongato-linearia, acuta. Scapi erecti, multiflori. Bracteae lanceolatae, acutae. Flores speciosi. Sepalum posticum ovato-ellipticum, subobtusum; inferum subrotundo-ellipticum, concavum. Petala anguste lanceolata, attenuata. Labellum calceiforme, margine crenulatum. Staminodium latissime obcordato- triangulum, lateribus ciliatis.

Selenipedium × *calurum* NICHOLSON *Dict. of Gard.,* III, p. 413. — DESBOIS *Monogr. Cypriped.,* p. 144.

Cypripedium × *calurum* RCHB. F. in *Gard. Chron.,* 1881, pt. 1, p. 41. — *Florist & Pomol.,* 1884, p. 145, t. 619. — WARN. & WILL. *Orchid Album,* III, t. 136.

This beautiful hybrid was originally raised in the establishment of Messrs JAMES VEITCH & SONS, of Chelsea, by M. SEDEN, and flowered for the first time in 1881. It was obtained by crossing *S. longifolium* with the pollen of *S.* × *Sedeni*, and is thus extremely near to *S.* × *Ainsworthii*, whose only difference, so far as the parentage is concerned, is that *S. Roezlii* instead of *S. longifolium* was used as the seed parent. *S. Roezlii*, however, can only be considered a geographical variety of *S. longifolium*, and the hybrids differ only in very slight characters.

I believe the same cross has since been raised in other establishments.

The history of this particular group of hybrids is a very interesting one, and their importance as decorative plants can scarcely be over-estimated. The first of the series was *S.* × *Sedeni*, said to have been the first hybrid raised by Mr. SEDEN, which was described in 1873, and distributed in the following year. It was obtained by crossing *S. Schlimii* with the pollen of *S. longifolium*, and also from the reverse cross. No tangible difference is said to have been discernible between the plants raised from the two crosses, either in habit, or in the structure and colour of the flower. This cross was a great achievement, both in itself, and for the results which were to follow. The one parent has a small but pretty flower, coupled with a somewhat weak habit; the other a vigorous and

robust habit, with a large and well-shaped, but rather dingily-coloured flower. The result of this combination of characters, however, proved an almost unlooked-for success, for it united the vigorous habit of the one, with a well-shaped and brilliantly-coloured flower, with a preponderance of characters of the other, and a floriferousness which can scarcely be surpassed, as the flowering period may be said to extend almost throughout the year.

S. × *Sedeni* was then crossed back on to each of its two parents, yielding, with *S. longifolium*, *S.* × *calurum*, and, with *S. Schlimii*, *S.* × *cardinale*, two extremely beautiful secondary hybrids. It was also crossed on to *S. caudatum*, yielding *S.* × *Schroederae*, perhaps the handsomest hybrid yet produced in the genus. Other combinations of species have yielded several additional and beautiful primary hybrids, and these again, crossed in various ways with the parent species, have produced other secondary ones of great horticultural value. What the future may reveal no one can tell, but the results already obtained in this genus are so remarkable, that we may expect to see some further striking developments in the course of the next few years. R. A. Rolfe.

CATTLEYA LABIATA LINDL.

Further materials come to hand to elucidate the question of the identity of the variety *Warocqueana* with the old autumn flowering type, in the shape of six different flowers, from the same number of plants, from Messrs Linden, of Brussels. They have all the characteristics of the ancient plant, and, as I said before, are not distinguishable from it.

As in the case of those received last autumn from the same source, they are larger than any of the specimens of the ancient type now preserved at Kew, but this could easily be explained, and does not constitute a tangible difference. They have the same brilliant colour, they flower at the same period, and as I am now told that they came from Brazil, it only confirms the opinion I previously expressed, namely, that the variety *Warocqueana* is only a synonym of *C. labiata*, and therefore the newer name will have to be cancelled. There is an appreciable difference between the six flowers in the breadth of the petals and lip, in the shade of colour, and in the amount of yellow on the disc; but this is only what was observed years ago.

R. A. Rolfe.

Gardeners' Chronicle, October 17, 1891.)

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CATTLEYA × HARDYANA RCHB. F. var. LAVERSINENSIS L. LIND.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCCV.

CATTLEYA × HARDYANA RCHB. F. var. LAVERSINENSIS L. LIND.

Mr HARDY'S CATTLEYA, LAVERSINE VAR.

CATTLEYA. Vide *Lindenia,* Engl. ed., vol. I, p. 7.

Cattleya × *Hardyana.* Pseudobulbi clavato-fusiformi, subcompressi, sulcati, monophylli. Folia lineari-oblonga, obtusa, emarginata. Racemi circa 4-flori. Flores speciosissimi. Sepala lineari-lanceolata, acuta, apice recurva. Petala elliptico-ovata, obtusa, undulata. Labellum integrum, elliptico-oblongum, apice bilobum, valde undulatum. Columna clavata.

Cattleya Hardyana WILLIAMS *Orch. Gr. Man.,* ed. 6 (1885), p. 633. — *Gard. Chron.,* 1885, pt. II, p. 206. — WARN. & WILL. *Orchid Album,* V, t. 231. — ROLFE in *Gard. Chron.,* 1889, pt. 2, p. 560.

C. × *Massaiana* WILLIAMS *Orchid Album,* VIII, t. 362.

he first notice I find of this magnificent Cattleya is in the *Gardeners' Chronicle* for August 16th 1884, where under the heading of " A NEW CATTLEYA " we read : — " An extraordinary variety, evidently a natural hybrid between *C. aurea* and a variety of *C. gigas* — probably *Sanderiana* — is now in bloom in the collection of GEORGE HARDY, Esq., Pickering Lodge, Timperley, Cheshire. In form and size it is a magnificent thing, and in the richness of the labellum it is just what might be expected from the blending of the bright orange veining in the throat of *C. aurea* with the expanded rich crimson half of the other parent. It is wonderfully beautiful and sweet. "

Shortly afterwards it was more fully described and its history given. It was purchased for Mr HARDY as *Cattleya gigas var. Sanderiana*, about the year 1880, and until it flowered for the first time no difference was suspected. It was imported in a batch of the two parent species from Frontino, in the state of Antioquia, on the western Cordillera of New-Granada. It is an extremely beautiful Cattleya, and shows characters derived from both parents. The sepals and petals are light rosy-mauve, with a little white at extreme base, and the lip with the front lobe and margin of the side lobes of a very deep rosy-purple, the disc reticulated with clear yellow nerves, and a large yellow blotch on either side. It is very sweetly scented, like *C. Dowiana*, but the vegetative organs are more like those of the other parent.

The above remarks apply to the original, typical *C.* × *Hardyana*, but several other forms have since appeared, which are clearly derived from the same parentage, and must therefore be classed as varieties. *C.* × *Massaiana* is one of these, and chiefly differs in having the sepals somewhat marbled with white, chiefly on the disc, and the lip less veined, with the eye-like spots rather more clearly defined. The petals approach *C. Dowiana* in shape. Other forms

have not only the shape of this parent, but very nearly the coulour also, and it is very interesting to observe the wide range variation, according as the characters of one or the other parent predominates. The sepals and petals may be light yellow marbled with pale pink, and in some of these pale forms the yellow appears chiefly along the nerves, giving a reticulated appearance. Frequently the pink colour is deepest near the margins.

The variety here represented has the sepals marbled with pink on a light ground, the petals being of a deeper shade, and the front lobe of the lip very richly couloured. It appeared with M. le baron F. de Rothschild, château de Laversine, France, during August last.

The occurrence of these different forms is very interesting, and seems to show that the two species cross very readily where they grow together on the western Cordillera. It is only here, where the areas of two parents overlap, that *C.* × *Hardyana* has been found, a fact which taken in conjunction with the combination of characters seen in *C.* × *Hardyana*, leaves no doubt of its origine and parentage. *C. Dowiana* grows in Costa Rica, and its variety *aurea* 600 miles further south near Frontino, on what is really a southern extension of the same mountain range. The other parent grows on all three Cordilleras, western, central, and eastern. The localities given are : Frontino on the western Cordillera; from Amalfi southwards to beyond Medellin on the central Cordillera; and from La Palma to beyond Flores on the eastern Cordillera. It is said to range from the seventh to the fifth parallel of north latitude, south of which it is replaced by *C. Trianae*.

R. A. Rolfe.

RODRIGUEZIA PUBESCENS RCHB. F.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCCVI.

RODRIGUEZIA PUBESCENS RCHB. F.

THE PUBESCENT RODRIGUEZIA.

RODRIGUEZIA. Sepala subaequilonga, posticum liberum, petaloideum, lateralia angusta, alte connata, omnia erecta, conniventia v. lateralia sub labello patentia v. reflexa, rarius incurvo-ascendentia mentum sub labello formantia. Petala sepalo postico similia. Labellum basi columnae continuum v. brevissime connatum, erectum, basi in calcar breve v. gibbum saepius solidum productum, ungue columnae parallelo, lamina patente obovato v. obcordato sepala saepe excedente, disco saepius cristato. Columna erecta, tenuis, apoda, apice clavata v. in brachia v. auriculas 2 varie producta; clinandrii lobi laterales nunc longe producti nunc abbreviati. Anthera terminalis, opercularis, incumbens, valde connexa v. galeata, 1-locularis; pollinia 2, cerea, ovoidea v. subglobosa, sulcata, inappendiculata, anthera dehiscente stipiti lineari v. basi dilatato affixo, glandula oblonga.

Herbae epiphyticae, caulibus secus rhizoma interdum elongatum brevibus pseudobulbo 1-2-foliato terminatis. Folia oblonga v. elongata, coriacea. Scapi sub pseudobulbo axillares, erecti. Racemi simplices, floribundi, floribus saepius speciosis.

Species ad 20, Americae tropicae a Brasilia usque ad Americam centralem incolae.

Rodriguezia RUIZ et PAV. *Prodr. Fl. Peru et Chile* (1794), p. 115, t. 25. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 559.

Burlingtonia LINDL. *Bot. Reg.*, XXIII (1837), t. 1927.

Rodriguezia pubescens. Acaulis; foliis coriaceis apice carinatis mucronatis; racemis densissimis pendulis; sepalo postico oblongo-lanceolato acuto, sepala lateralia alte connata angustiora basi gibbo-incurva; petala obovato-oblonga subobtusa; labello obovato bilobo breviter hastato laciniis erectis, cristae lamellis utrinque 3 valde inaequalibus; columnae basi pubescentis alis 2 minutis subulatis albis 2 oblongo-linearibus porrectis.

Rodriguezia pubescens RCHB. F. in *Mohl & Schlecht. Bot. Zeit.*, X (1852), p. 771. — ID. in *Walp. Ann.*, VI, p. 694.

Burlingtonia pubescens LINDL. in *Paxt. Fl. Gard.*, I (1850-1), p. 158. — RCHB. F. in *Walp. Ann.*, III, p. 554.

This elegant and beautiful species was originally described by Dr. LINDLEY, in PAXTON'S *Flower Garden*, in 1851, under the name of *Burlingtonia pubescens* — the identity of the genus *Burlingtonia* with the earlier *Rodriguezia* being then unknown. From this source we learn that it was exhibited at a Meeting of the Horticultural Society in November 1850, when it received a Silver Medal. " It formed a wide tuft of dark green rigid leaves, pouring forth from their bosom a profusion of bunches of snow-white blossoms. It had been sent to JOHN KNOWLES, Esq., of Manchester, from some friends in Pernambuco, where it appears to be very rare. It is not new, however, for we have in our possession a dried specimen, communicated by the late Mr. GEORGE LODDIGES, in November 1846, at which time we named it *pubescens* in allusion to the down on the column, which is not found in the other drooping white-flowered species. "

It has occasionally been met with in collections during recent years, but cannot be considered by any means a common plant. Messrs LINDEN have, however, imported a number of plants, which have flowered finely during the present autumn, from one of which the annexed plate has been prepared.

These charming little plants are worthy of a place in every collection. They succeed best in small baskets or pans filled with sphagnum moss and potsherds, and while growing require a good supply of heat and moisture. They want but little rest and should never be allowed to become dry at the roots.

R. A. Rolfe.

AERIDES SUAVISSIMUM LINDL.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCCVII.

AËRIDES SUAVISSIMUM LINDL.

THE SWEETEST AIR-PLANT.

AËRIDES. Sepala subaequilonga, patentia, posticum ovatum v. oblongum, lateralia latiora, basi pede columnae adnata. Petala sepalo postico subsimilia. Labellum pedi columnae affixum, erectum v. incumbens, basi calcaratum, calcare sursum recurvo v. sub lamina ascendente intus vacuo; lobi laterales ad latera calcaris erecti, latiusculi, saepius parvi; medius patens, ovatum v. amplum. Columna brevis, crassiuscula, basi in pedem producta, exalata; clinandrium truncatum, parum prominens. Anthera terminalis, opercularis, incumbens, convexa, 2-locularis; pollinia 2, compresso-globosa, extus sulcata, inappendiculata, anthera dehiscente stipiti angusto v. complanato affixa, glandula squamiformis. Capsula oblonga v. clavata, erostris, patens v. reflexa, saepius crassiuscula, rarius longior et angustior, costis prominentibus v. anguste alatis.

Herbae epiphyticae, caulibus foliatis non pseudobulbosis. Folia disticha, coriacea, v. subcarnosa, vaginis persistentibus caulem obtegentibus. Racemi laterales, nunc simplices dense floribundi, nunc ramosi laxiores. Flores mediocres v. majusculi, racemis saepius speciosis, bracteae parvae.

Species ad 20, Indiae orientalis, Archipelagi Malayani et Asiae orientalis usque ad Japonicum incolae.

Aërides LOUR. *Fl. Cochinchin.* (1790), p. 525. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 576.

Aërides suavissimum. Foliis linearibus inaequaliter bilobis recurvis; racemo pendulo v. subpendulo multifloro; bracteis nanis ovatis scariosis; sepalis petalisque ovalibus obtusis, patentissimis; labello cornuto ascendente columnae appresso trilobo, lobis lateralibus oblongis subdenticulatis, lobo intermedio nano lineari bifido integro v. denticulato.

Aërides suavissimum LINDL., in *Journ. Hort. Soc.*, IV (1849), p. 264. — ID. in *Paxt. Fl. Gard.*, II, p. 141, t. 66. — ROLFE in *Gard. Chron.*, 1890, pt. I, p. 43. — HOOK. F. *Fl. Brit. Ind.*, VI, p. 47. — VEITCH *Man. Orch.*, pt. VII, p. 78.

A. flavidum LINDL., in *Paxt. Fl. Gard.*, II (1851-1852), p. 101.

A. Reichenbachianum LINDEN, in *Koch et Fintelm. Wochenschr.*, I (1858), p. 61. — RCHB. F. *Xen. Orch.*, II, p. 11, t. 104.

A. nobile WARNER *Sel. Orch.*, I (1862), t. 11. — REGEL *Gartenflora*, XIX, p. 40, t. 641.

A. Rohanianum RCHB. F., in *Gard. Chron.* (1884), pt. I, p. 206.

Var. Ballantineanum HOOK. F., *Fl. Brit. Ind.*, VI (1890), p. 37. — VEITCH *Man. Orch.*, pt. VII, p. 78.

A. Ballantineanum RCHB. F., in *Gard. Chron.*, 1885, pt. II, p. 198.

ërides suavissimum was originally described by Dr LINDLEY in the *Journal of the Horticultural Society* for 1849, from a plant introduced from the Straits of Malacca by Messrs LODDIGES of Hackney, with whom it flowered in June of that year. In general appearance it was described as being similar to *A. odoratum*, but in fragrance more balsamic and delicious. The sepals and petals are white or pale blush, with a lilac tip; the lip is pale nankeen yellow, with a lilac streak along the centre of the middle lobe, the tip of the spur being reddish. It differs from *A. odoratum* in the middle lobe of its lip being emarginate and much longer than the lateral ones. *A. flavidum*, described by LINDLEY immediately afterwards, soon proved to be simply a variety of the same. *A. Reichenbachianum* and *A. Rohanianum* appear to be also varieties of this species.

Although closely allied to *A. odoratum* in many respects, it is markedly

different in its buff-coloured lip, and its longer racemes, which appear later in the season. The flowers are deliciously fragrant.

The variety *Ballantineanum* is the most distinct deviation from the type which has yet appeared, and is chiefly characterised by its shorter, fewer-flowered racemes, which appear earlier in the year.

The cultivation of these plants is now pretty generally understood. They should be placed in the warm house, and during the growing season a copious supply of water must be given. When at rest the amount should be greatly reduced, but they may never be allowed to become dry.

The geographical range of this species appears to be very imperfectly known. Mr F. W. Burbidge saw it growing luxuriantly at Singapore, as recorded in his *Gardens of the Sun*, p. 18, where, however, it may have been an introduced plant.

R. A. Rolfe.

DISA GRANDIFLORA LINN. FIL.

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCCVIII.

DISA GRANDIFLORA LINN. FIL.

THE LARGE-FLOWERED DISA.

DISA. Sepala aequilonga, libera, posticum galeatum, nunc dorso v. basi in calcar polymorphum productum, nunc saccatum umbonatum v. planum, lateralia patentia. Petala nunc sepalis lateralibus similia, nunc minora obliqua v. valde polymorpha. Labellum a basi columnae patens, ecalcaratum sepalis saepius minus et sessile, v. interdum longe unguiculatum, lamina indivisa subtriloba v. lacero-fimbriata. Columna brevis crassiuscula; rostelli lobi laterales erecti v. apice supra glandulas recurvi, medius parvus; stigma ad basin columnae a rostello distans, carnosum pulvinatum v. elevato-cupulatum, plus minus basi labelli adnatum, integrum. Anthera cum clinandrio suberecta reclinata v. in dorsum columnae reflexa, loculis elevatis parallelis adnatis, apicibus (inferis) extremitate reverso-erectis v. ascendentibus interdum longiusculis, lobis lateralibus rostelli applicitis; pollinia in loculis solitaria, laxe granulosa, caudulis saepius elongatis, glandulis 2 nudis discretis affixa. Capsula oblonga, angusta v. fere linearis, erecta.

Herbae terrestres, habitu *Habenariae,* tuberibus indivisis, caule nunc elato folioso, nunc tenui paucifolio v. foliis ad squamas vaginantes reductis. Flores in una specie maximi solitarii v. gemini, in aliis majusculis v. mediocribus laxe spicati v. racemosi nunc parvi dense longeque spicati v. interdum fere in corymbum conferti v. ad. 1 v. 2 reducti. Bracteae saepius floribus breviores.

Species ad 50, Africae tropicae et australis et ins. Mascarensium incolae.

Disa BERGIUS *Descr. Pl. Cap. B. Spei* (1767), p. 348. — BENTH et HOOK. *Gen. Pl.*, III, p. 630.

Disa grandiflora. Caule erecto folioso; foliis lineari-lanceolatis acuminatis patentibus basi vaginantibus; racemo erecto 1-5-floro (rarissime 5-12-floro); floribus maximis speciosis; bracteis ovato-lanceolatis acuminatis; sepalis maximis, lateralibus planis ovatis acuminatis, sepalo postico cucullato ovato acuto, supra basin calcare breviusculo pendulo; petalis oblique obovatis parvis; labello lanceolato-lineare acuto apice recurvo; columna erecta utrinque appendiculata, appendicibus ovalibus dimidiatis erectis cum anthera parallelis, margine laterali replicato dentato et cum dorso columnae basi adnato; clinandrio magno dilatato carnoso trilobo, lobo medio inflexo; anthera terminali erecta, apiculata, in parte posteriore clinandrii inserta, connectivo carnoso rigido, loculis parallelis, basi divaricatis solutis in lobis lateralibus clinandrii incumbentibus; pollinibus gracilibus elongatis, glandulis nudis; stigmate carnoso concavo.

Disa grandiflora L. FIL. *Suppl. Pl.* (1781), p. 406. — KER. in *Journ. Soc. of Arts,* IV, p. 205, t. 5, fig. 1. — LAM. *Encycl.,* III, p. 305, t. 727, fig. 1. — LINDL. *Sert. Orch.*, t. 49. — ID. *Bot. Reg.*, XI, t. 926. — *Bot. Mag.*, t. 4073. — *Pescatorea,* t. 18. — *Belg. Hort.,* V, p. 97, t. 7, fig. 1-2. — *Fl. & Pomol.* (1863), p. 105, cum tab. (var. superba). — WARN. *Sel. Orch.*, ser. 1, t. 36 (var. superba). — RCHB. *Fl. Exot.,* II, t. 110. — *Fl. d. Serres,* t. 160. — JENN. *Orch.*, t. 40. — *Fl. Mag.*, II, t. 69. — *Fl. & Pomol.* (1872), pp. 274, 275, cum xyl. — *Journ. Linn. Soc.,* VII, pp. 143, 145, cum xyl. — ID., XIX, p. 233, fig. I (columna). — *Gard. Chron.* (1875), p. I, p. 441, fig. 90. — ID. (1882), pt. I, p. 402, fig. 62 (infans). — ID. (1888), pt. 2, p. 665, fig. 94. — *Reichenbachia,* ser. 2, I, p. 33, t. 15.

Disa uniflora BERGIUS *Pl. Cap.* (1767), p. 348, t, 4, fig. 7. — BOLUS *Orch. Cape Penins.*, p. 147.

Satyrium grandiflorum THUNB. *Prodr. Pl. Cap.* (1794), p. 4.

Disa Barrelii, Hort., *Fl. Mag.*, n. s. (1874), t. 104.

his magnificent terrestrial Orchid is a native of Table mountain and one or two other localities in South Africa. According to BOLUS it is found along the margins of streams (which frequently become dry in the summer) on Table mountain, from about 1100 to 3300 feet above sea level, and also extends eastwards on the Hottentot's Holland range of mountains, and Cold Bokkeveld on the Gydouw Mt., and northwards has been reported from the Cederbergen. It usually flowers from January to March. It appears to have

flowered for the first time in Europe in June 1825, in the collection of William Griffin, Esq., of South Lambeth. It has been known since 1704, being mentioned in the third edition of Ray's *Historia Plantarum* as " Orchis Africana flore singulari herbacea. "

Bolus speaks of it as " the peerless Disa uniflora, " and observes — " This beautiful flower is the object of universal admiration, and the name which has been given to it, the " Pride of Table mountain, " indicates the honour in which it is held. It is, indeed, the queen of terrestrial Orchids in the Southern Hemisphere, as *Cypripedium spectabile* may be said to reign, though with less magnificence, in the Northern. " He further observes — " It is still abundant on Table mountain, although of late years large quantities of the tubers have been annually exported to Europe, and much needless destruction, arising from wasteful gathering by unskilled hands, resulted. But the summit of the mountains being Crown-land, the Government has recently intervened, and restricted the removal of tubers within reasonable limits; so that, if this supervision be continued, there will be little reason to fear the extinction of this truly noble species. "

It was originally described by Bergius as *Disa uniflora*, in 1767, and is the species upon which the genus was founded. The younger Linnaeus, however, considering the specific name inappropriate, as the plant has usually more than one flower, changed it to *Disa grandiflora* — a course only justifiable when a name is found to be inaccurate, as in the present instance. Ordinary specimens produce from one to five flowers, but the variety *superba* has sometimes as many as nine, and Mr B. S. Williams, in the *Orchid Grower's Manual*, records receiving from Chatsworth a raceme two and a half feet long, and bearing no less than twelve flowers. This, however, is an exceptional example.

It is probably the handsomest member of the genus, but there are two or three others which are well worthy of more attention. A handsome hybrid has recently been raised between this species and *D. rosea*, by Messrs James Veitch & Sons, of Chelsea, to which the name of *D.* × *Veitchii* has been given.

R. A. Rolfe.

English Edition. PART XII. January 1892.

LINDENIA

ICONOGRAPHY OF ORCHIDS

CONDUCTED BY

J. LINDEN, LUCIEN LINDEN, EM. RODIGAS and R. A. ROLFE.

THE COLOURED PORTRAITS BY

P. DE PANNEMAEKER, A. GOOSSENS and G. SEVEREYNS.

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CYPRIPEDIUM × VEXILLARIUM RCHB. F.

A. Goossens pinx. P. De Pannemacker chrom.

PL. CCCIX.

CYPRIPEDIUM × VEXILLARIUM RCHB. F.

THE STANDARD-BEARER CYPRIPEDIUM.

CYPRIPEDIUM. Vide *Lindenia,* Engl. ed., vol. I, p. 31.

Cypripedium × vexillarium. Foliis ligulatis acutis apice bidentatis pallidis parce ac hieroglyphico tessellatis; pedunculo velutino unifloro; sepalo dorsali latissimo ovali-acuto tantum extus glandipili, utrinque septemnervi; sepalo inferiori ovato acuto utrinque septemnervi; petalis oblongo-ligulatis undulatis reflexis, non arcuatis, ciliatis, circa limbum superiorem parce verrucosis; labelli ungue implicato, sacco ipso antice ostio retuso, utrinque juxta basin lacinula una; staminodio transverso antice retuso medio apiculato, utroque limbo introrsum semiforcipato, disco reticulato.

Cypripedium vexillarium RCHB. F. in *Gard. Chron.,* 1870, p. 1373. — *Gard. Chron.,* 1880, pt. I, pp. 780, 781, fig. 35. — *Gard. Chron.,* 1887, pt. I, p. 456, fig. 87. — *Orchidophile,* 1883, pp. 602, 603, cum. xyl. — VEITCH *Man. Orch.,* pt. IV, p. 100, cum. xyl.

This handsome hybrid was obtained by crossing *Cypripedium barbatum* with the pollen of *C. Fairieanum*. It flowered for the first time in 1870, about a year later than *C. × Harrisianum*, which is the only older hybrid in the genus. Both were raised by the late Mr DOMINY, in the establishment of Messrs JAMES VEITCH & SONS, of Chelsea, and their production was undoubtedly a great horticultural achievement. Artificial hybridisation of Orchids was then in its infancy, but the success of these early experiments served as a stimulus to greater efforts in the same field, with the result that during the next few years a large number of novelties appeared, and at the present time the number of hybrids in the genus Cypripedium is far greater than that of the species from which they have been derived.

Cypripedium barbatum has been a very popular species with hybridists, and no less than nineteen different combinations with it have been effected. *C. Fairieanum* is too rare to have been utilised to such an extent, but five hybrids from it have already flowered, and as other crosses with it have been effected we may expect some further developments within the next few years. *C. × vexillarium* was followed in 1874 by *C. × Arthurianum*, a distinct and very beautiful seedling from *C. insigne*, whose influence in the hybrid is very strongly marked. *C. × Niobe* is a seedling from *C. Spicerianum*, which flowered in 1890, and it was quickly followed by two others, *C. × H. Ballantine* and *C. × Juno*, the former a seedling from *C. purpuratum*, the latter from *C. callosum*.

In the present hybrid the characters of the pollen parent decidedly preponderate. The pallid leaves are reticulated with green of a deeper shade. The flower is much like a large *C. Fairieanum* in shape, though somewhat modified in the direction of the other parent. The dorsal sepal is washed with purple on

a pale ground and nerved with vinous purple. The petals are deflexed, broadly ligulate, undulate and ciliate, margined with purple, and with green nerves. The lip is much like that of *C. Fairieanum* in shape, brownish red, paler beneath, the infolded side lobes pale green with a number of purple warts. The staminode is broader and shorter than in *C. Fairieanum*, the colour brownish green. It is a most beautiful and floriferous little plant.

R. A. Rolfe.

ANGULOA UNIFLORA RUIZ et PAVON var. TREYERANI ROLFE

A. Goossens pinx. P. De Pannemaeker chrom.

PL. CCCX.

ANGULOA UNIFLORA RUIZ et PAVON var. TREYERANI ROLFE.

THE ONE-FLOWERED ANGULOA, M. TREYERAN'S VARIETY.

ANGULOA. Sepala subaequalia, lata, crassiuscula, fere in globum conniventia, lateralia basi rotundata, sub pede columnae connata. Petala sepalo postico subsimilia v. minora. Labellum in pede columnae plus minus stipitatum, carnosulum; lobi laterales ad apicem unguis erecti, paralleli, medius patens, parvus v. latior ciliatusque; discus medio lamella auctus. Columna erecta, semiteres, exalata, basi in pedem brevem producta; clinandrium truncatum v. antice biappendiculatum. Anthera terminalis, opercularis, incumbens, galeata, unilocularis; pollinia 4, cerea, ovata v. oblonga, per paria sibimet arcte applicata postico minore, inappendiculata, anthera dehiscente stipiti longo plano affixa, glandula ovata.

Herbae epiphyticae v. terrestres, caulibus brevibus paucifoliatis basi vaginatis mox in pseudobulbos carnosos incrassatis. Folia ampla plicato-venosa. Scapi ad latera pseudobulborum erecti, uniflori, vaginis pluribus laxis, superioribus interdum in laminam foliaceam brevem productis. Flos magnus, erectus.

Species 3, Andium Columbiae et Peruviae incolae.

Anguloa RUIZ et PAVON, *Fl. Peruv. et Chil. Prodr.* (1794), p. 118, t. 26. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 548.

Anguloa uniflora. Pseudobulbi conico-ovoidei. Folia late elliptico-oblanceolata, acuta, plicato-venosa. Pedunculus uniflorus, squamis basi imbricatis inflato-tubulosis vaginatus. Bractea spathacea, acuta. Sepala ovata, acuminata, cucullato-concava. Petala conformia, minora. Labellum trilobum, lobis lateralibus amplis rotundatis obtusissimis, lobo medio lineari-angusto reflexo-revoluto, callo carnoso lato retuso. Columna clavata, apice laciniis duabus subulatis aucta.

Anguloa uniflora RUIZ et PAVON. *Syst. Veg. Fl. Peruv. et Chil.* (1798), p. 228. — LINDL. *Gen. et Sp. Orch.*, p. 160. — ID. *Bot. Reg.*, XXX, t. 60. — *Bot. Mag.*, t. 4807. — RCHB. F, in *Bonplandia*, II, p. 277. — RCHB. F. in *Walp. Ann.*, VI, p. 599. — REGEL *Gartenflora*, XXXII, p. 353, t. 1137. — *Lindenia*, III, p. 11, t. 100. — *Ill. Hort.*, XXXVII, p. 37, t. 101.

A. virginalis HORT. *Gard. Chron.*, 1851, p. 392.

A. eburnea WILLIAMS *Orchid Album*, III, t. 133.

he genus *Anguloa* was established by the Spanish botanists RUIZ and PAVON, in 1794, in honour of D. FRANCISCO DE ANGULO, Director-general of Peruvian Mines, a gentleman greatly attached to botanical pursuits, upon the species here figured, which they remark is found in clearings (called « *Carpales* ») about Muña and Chincao, and profusely in the woods of Tarma and extending to Huayabal, Chanchamayo and Siusa; that it flowers in August and September, and that it is called « *Flor del Espiritu Santo* ». Nothing further seems to have been known about it until April 1844, when it flowered in the collection of Mr BARKER of Birmingham, from specimens believed to have been received from M. LINDEN's Columbian collections. There is no wild specimen in Dr LINDLEY's Herbarium from this source, for the one cited by him in the *Orchidaceae Lindenianae* is certainly *A. Clowesii*, LINDL. The two are readily distinguishable in the dried state, and there is the evidence written on the ticket by M. LINDEN himself — « Pétales d'un jaune sale, labelle blanchâtre » — which just describes

A. Clowesii. The locality given, however, " Sierra Maestre, Cuba ", as pointed out by LINDLEY, is probably a mistake, and has arisen by some accidental confusion of tickets. SCHLIM, however, collected *A. uniflora* in the province of Ocana, in New Granada, at an altitude of 1550 metres, in August 1851. It is labelled " *A. virginalis*, fl. blanc pur ", but this is only a variety of the same species. WARSCEWICZ also met with it at the sources of the Marañon, in North Peru, and at Quindios, in the province of Tolima, in New Granada, from which latter source was obtained the plant figured in the *Botanical Magazine*. There is also a specimen in LINDLEY's Herbarium sent by JAMIESON, probably from the neighbourhood of Quito; it is labelled " Forests of the Andes at 7000 feet elevation ". We have therefore evidence that the species is diffused along the Andes from southern Peru to the north of New Granada, and possibly into Venezuela, for it was near Merida that M. LINDEN's dried specimens of *A. Clowesii* were obtained, and a batch of living plants sent home by M. LINDEN contained all the three species of Anguloa.

For just half a century nothing seems to have been known about the genus beyond that contained in the original description, but in March 1844 a second species, *A. Clowesii*, appeared. In describing it Lindley remarked: " At last a genuine species of the genus *Anguloa*, which has hitherto puzzled every one, has made its appearance in the collection of the REV. J. CLOWES, of Broughton Hall, near Manchester, who obtained it from LINDEN's Columbian collections. " In the following month the long lost *A. uniflora* flowered with Mr BARKER, of Birmingham, and later in the same year a third species, *A. Ruckeri* LINDL., blossomed with Mr RUCKER, of Wandsworth. All three were obtained from M. LINDEN's discoveries and it is somewhat singular that after the lapse of nearly another half a century no additional species should have been discovered. It is true that two or three others have been described, but they have proved to be nothing but varieties of the older species. Two other forms, however, are of considerable interest, namely *A.* × *media* RCHB. F. and *A.* × *dubia* RCHB. F. The first named is an artificial hybrid between *A. Clowesii* and *A. Ruckeri* (which by an oversight I described again as *A.* × *intermedia*), and singularly enough it has since appeared as a natural hybrid with imported plants. The second is a supposed natural hybrid between *A. Clowesii* and *A. uniflora*, which I have never seen. The other possible combination, *A. uniflora* with *A. Ruckeri*, does not appear to have been yet heard of.

The variety here figured chiefly differs in having the transverse rosy bars on the base of the lip more developed than usual, and a little more colour about the crest; it is dedicated, at M. L. LINDEN's request, it to M. TREYERAN, a well-known French lover of Orchids.

R. A. ROLFE.

TRICHOCENTRUM TRIQUETRUM ROLFE

R. De Bannemacher, chrom.

PL. CCCXI.

TRICHOCENTRUM TRIQUETRUM ROLFE.

THE THREE-ANGLED TRICHOCENTRUM.

TRICHOCENTRUM. Sepala subaequalia, libera, patentia. Petala sepalis similia. Labellum basi cum columna in urceolum connatum, basi in calcar descendens productum, supra urceolum erectum, biauriculatum v. nudum; lobi laterales parum dilatati, erectiusculi, medius explanatus, late bilobus, sepalis multo longior. Columna brevis, crassa, fere ad apicem adnata, apoda; clinandrium antice latiuscule bilobum, dorso breve. Anthera terminalis, opercularis, incumbens, semiglobosa, imperfecte bilocularis; pollinia 2, cerea, ovoidea, compressiuscula, inappendiculata, anthera dehiscente stipiti plano cuneato affixa, glandula ovata.

Herbae epiphyticae, caulibus brevissimis unifoliatis demum in pseudobulbum parvum carnosum incrassatis. Folia coriacea. Scapi inter pseudobulbos breves, plurivaginati, uniflori v. rarius biflori. Flores mediocres v. majusculi.

Species circa 20, Americae tropicae a Brasilia usque ad Americam centralem incolae.

Trichocentrum POEPP. et ENDL. *Nov. Gen. et Sp.*, II (1838), p. 11, t. 115. — BENTH. et HOOK. F. *Gen. Plant.*, III, p. 559.

Trichocentrum triquetrum. Folia equitantia, 6 poll. longa, basi 6 lin. lata, apice attenuata, acuta. Pedunculi axillares, 1 poll. longi, pauciflori. Bracteae conduplicatae, lanceolato-lineares, acutae, 6 lin. longae. Ovarium pedicellatum, triquetrum. Sepala ovato-lanceolata, acuta, 9 lin. longa, 4 1/2 lin. lata, straminea, lateralia ad calcar labelli adnata. Petala suborbicularia, 7 lin. longa, 8 lin. lata, straminea. Labellum reniformi-orbiculare, 9 lin. longum, 14 lin. latum, stramineum, aurantiaco-maculatum, basi bicarinatum, calcar gracile, 1 1/4 poll. longum, attenuato-acutum. Columna crassa, alis brevibus et rotundatis.

Trichocentrum triquetrum ROLFE in *Gard. Chron.*, 1891, pt. I, p. 701.

richocentrums, though small, are elegant little plants, and a few of the species are decidedly pretty, though for some reason they are but rarely met with in gardens, and are invariably classed as botanical Orchids. The present species, which is a very interesting one, was introduced from Peru by Messrs CHARLESWORTH SHUTTLEWORTH & C°, of Heaton, Bradford, and of Clapham, and flowered for the first time in May 1891. Some little time afterwards it flowered with Messrs LINDEN, L'HORTICULTURE INTERNATIONALE, Brussels, from which source the annexed plate has been prepared.

The genus naturally falls into two sections, the one with flat and horizontal, the other with equitant and vertical leaves. The latter comprises two very closely allied species, *T. iridifolium* LINDL. and *T. plectrophorum* RCHB. F., natives of Guiana, which are possibly only forms of one and the same species, as LINDLEY, as well as FOCKE, evidently thought. The present species also belongs to the same section, but is altogether larger, both in leaf and flower, and has very different petals and lip. It has somewhat of the habit of an *Iris*, or of *Maxillaria iridifolia*, and is about six inches high, the flowers being straw coloured, with the lip spotted and variegated with dull orange, forming a very pretty contrast. The triquetrous ovary strongly recalls *Angraecum Leonis*, though

the broad petals and lip give the rest of the flower a very different appearance. The spur, which is composed of a basal extension of the lip together with the adnate bases of the lateral sepals, is one and a quarter inches long. It is a very interesting addition to the genus.

R. A. Rolfe.

***

The cultivation of Trichocentrums in general is often considered difficult, but this we think is erroneous, and in this respect *Trichocentrum triquetrum* is in no way different from other species of the genus. They require a warm temperature and plenty of light, and therefore should be cultivated in a warm house, suspended near the glass, and with little shade except during the hottest time of the day. They require plenty of water during their period of growth, but when in flower they should be kept somewhat drier, like most other Orchids. They may be cultivated in pots or baskets, but the latter are undoubtedly preferable, because more convenient for suspending the plants near the glass. They may also be placed in pots, provided they are not very large, and the pots placed in hanging baskets.

The compost should be formed of equal quantities of sphagnum and fibrous peat, chopped into pieces of an inch or an inch and a half long, and well mixed. A layer of sphagnum must be placed in the bottom of the pan, and on the surface another layer of short pieces and tufts.

It is a good plan to water the plants from time to time with water to which a very small quantity of liquid manure made from cow-dung has been added, and this be continued during the may months of active growth. The liquid should not be allowed to touch the leaves, but should be applied to the compost near the edges of the pans.

As soon as they commence to flower, they may be removed without inconvenience to a cooler house, or even to a dwelling room.

ODONTOGLOSSUM CRISPUM LINDL. var. XANTHOTES HORT.

A. Goossens pinx. *P. De Pannemaeker chrom.*

PL. CCCXII.

ODONTOGLOSSUM CRISPUM LINDL. var. XANTHOTES HORT.

THE CRISPED ODONTOGLOSSUM, YELLOW VARIETY.

ODONTOGLOSSUM. Vide *Lindenia*, Engl. ed., I, p. 19.

Odontoglossum crispum. Pseudobulbi ovato-compressi, diphylli. Folia lanceolato-linearia, acuta, carinata. Flores in racemum simplicem multiflorum dispositi, nivei v. flavescentes, plus minus maculis, punctis vel radiis roseis, brunneis aut purpureis ornati, patentes, speciosissimi. Bracteae ovato-lanceolatae, acutae, parvae. Sepala lanceolata vel ovato-lanceolata, acuta. Petala subconformia v. saepius latiora, crispo-undulata, saepe denticulata. Labellum unguiculatum, elliptico-oblongum vel subpanduratum, marginibus crispis vel fimbriatis, apice retrorsum decurvo apiculato, carinis a basi in discum ternis approximatis, carina mediana breviori, lateralibus in lamellas disci exeuntibus. Columna arcuata, clavata, alis fimbriatis vel laceris.

Odontoglossum crispum LINDL. in *Ann. Nat. Hist.*, ser. I, XV (1845), p. 256. — *Id. Bot. Reg.*, XXXI, t. 50. — *Id. Fol. Orch. Odont.*, p. 20. — RCHB. F. in *Walp. Ann.*, VI., p. 845. — REICHENBACHIA, ser. I, I, t. I. — VEITCH, *Man. Orch.*, pt. I. p. 24, cum xyl.

O. Alexandrae BATEM. in *Gard. Chron.*, 1864, p. 1083. — *Proc. Roy. Hort. Soc.*, IV, p. 186. — BATEM. *Monogr. Odont.*, tt. 14, 19. — *Bot. Mag.*, tt. 5691, 5697.

O. Bluntii RCHB. F. in *Mohl. & Schlecht. Bot. Zeit.*, 1864, p. 415. — *Fl. des Serres*, t. 1652.

Very numerous are the varieties of the beautiful *Odontoglossum crispum*, which is perhaps the most popular and useful Orchid in cultivation. They range from pure white through innumerable spotted forms to light rosy mauve, with deeper coloured blotches, and in another direction even to light yellow. Most of the forms, however, exhibit spots of different shades of chestnut-brown, red, or mauve-purple, while in the one figured they are golden-yellow, thus affording a decided contrast to the ordinary kinds. It flowered in the collection of Baron SCHRÖDER, The Dell, Egham, some months ago, when the annexed plate was prepared. The yellow is confined to the sepals and lip, the petals being pure white. The spots vary from five to seven on each sepal, and are situated just below the middle. The disc of the lip is yellow, and immediately in front of this is one large deep yellow blotch. It is a very elegant variety.

" The native home of *Odontoglossum crispum*, " write Messrs VEITCH in their *Manual of Orchidaceous Plants*, " is on the western branches and spurs of that portion of the eastern Cordillera which lies between lat. 3,45° and 5,50° N., a distance from north to south of about 180 miles, having the city of Bogota about midway between the northern and southern limits. Its vertical range is 7,500 to 8,800 feet elevation, a zone that in those regions is occupied by forests composed chiefly of cinchonaceous trees, walnuts, and evergreen oaks (*Quercus tolimensis*). It is in the occasional openings of this forests, and especially along the numerous mountain streams, that *O. crispum* occurs; it grows chiefly on the

trunks and principal branches of the trees where there is partial shade, and occasionally in full exposure, but never in the dense primæval forest. "

Associated with it in this locality are *O. gloriosum*, *O. Lindleyanum*, and *O. luteo-purpureum*, and it is a noteworthy fact that it has hybridised with each of them. With the first it yields *O.* × *Andersonianum* and its innumerable varieties, including *O.* × *Ruckerianum*, *O.* × *Jenningsianum*, *O.* × *limbatum*, *O.* × *hebraicum*, and a few others. With the second it yields *O.* × *Coradinei*, and with the third *O.* × *Wilckeanum*, both of which are also very variable, and by no means rare in cultivation. It is very interesting to observe that the last named hybrid has also been raised artificially, thus confirming its parentage.

It would be very interesting to know the species of insects which visit these flowers and thus effect their cross-fertilisation, a point which does not appear to have been recorded.

R. A. Rolfe.

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